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FACTS SERVING TO PROVE THE CONTAGIOUSNESS OF TUBERCULOSIS; WITH RESULTS OF EXPERIMENTS WITH GERM TRAPS USED IN DETECTING TUBERCLE-BACILLI IN THE AIR OF PLACES OF PUBLIC RESORT, AND A DESCRIPTION OF THE APPARATUS.*

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It is in accord with the spirit of the age to attempt to get at the root of all things affecting the health of our race. The causes of tuberculosis and influences modifying the progress of the malady claim not only the active interest of those engaged in the field of scientific medical investigation, but the attention of every mind that fully appreciates the universal prevalence and immense mortality resulting from the scourge consumption. It may add somewhat to the interest, if not to the elucidation, of this subject, to trace the progress of thought springing from the observation of clinicians of all ages. By collecting the expressions of the *master-workmen* of different times, we will see that knowledge upon the subject has been steadily progressive, and that what now seem to be proven facts have been preceded by flashes of truth in almost every epoch of medical history. The discovery of the tubercle-bacillus was not drawn from the inspiration of genius, but from the shaping of clinical facts gathered in the progress of our art, from the time of the Father of Medicine until the day that Koch discovered a peculiar microbe in tuberculous patients.

The word tubercle was used by Hippocrates,* but he applied it principally to designate small external tumors—phymatæ—as hordeolum, furunculus, sycosis, anthrax, wheals, etc. It is said that the word was used by Celsus, about A. D. 20, but no special meaning was attached to it by him.

Franciscus Delebœ Sylvius, who lived between 1614 and 1672, was not only a strong advocate of the doctrines of Hippocrates, but also did much to advance the knowledge of this disease. He was the first to use the word tubercle in designating the hard nodules found in the lungs of the phthisical. He was also the first to speak of the formation of cavities and destruction of the lung tissue by the softening and breaking down of these hard masses. He describes three kinds of consumption—one of blood; one of the lungs, occasioned by bad nutrition; and one of degenerated glands. Through this latter proposition he may be regarded as the originator of the theory of a relationship between consumption and scrophulosis. "He believed that in the predisposed the disease may be excited by contagion."†

As a result of autopsies made by Willis, and also by Bonetus, about from 1640 to 1670, the subject of phthisis was very much advanced.

When Richard Morton's‡ celebrated work ap-

*Read before the College of Physicians of Philadelphia, February 4, 1885.

*"The Genuine Works of Hippocrates." Published by the Sydenham Society, London, 1849.

†Quoted in "A Practical and Historical Treatise of Consumptive Diseases." By Thomas Young, M. D., 1815, p. 178.

‡"Phthisiologia, or a Treatise of Consumption." 2d Ed., London, 1694.

peared, the opinions set forth therein were not only greatly in advance of those of his own time, but were destined to supplant all others, and to be accepted as correct for more than one hundred years after his death. He asserted that all consumption originated through tubercles, and that they gave rise to the dry cough. The idea entertained by Hippocrates, that consumption was due to inflammation and ulceration, he strongly opposed. He also declared that he believed the disease to be propagated by infection. "For," said he, "this distemper—as I have observed by frequent experience—like a contagious fever, does infect those that lie with the sick person with a certain taint." (p. 67.)

Desault* also insisted that tubercles were the essence of consumption, and that ulceration of the lungs and hæmoptysis were the result of the deposit. He believed in the contagiousness of the disease when ulceration had occurred. A statement, which at this day seems to have been almost prophetic, occurs in his writing upon tuberculosis: "Worms," he declares, occasioned by the putrefying lungs, "propagate the disease and cause it to spread."

From the time of Morton to 1793, the subject of tuberculosis commanded the attention of some of the most distinguished men in medicine. (Sydenham, F. Hoffman, Boerhaave, Van Swieten, Sauvages, Morgagni, Cullin, Hufeland, Portal, Stark, Ruysch, Stahl, Reid and Baumé.) At this time Baillie's great work appeared,† in which he demonstrated the existence of tubercles in other organs besides the lungs.

Bayle,‡ an independent worker as well as thinker, insisted most strenuously that phthisis is a general chronic disease, and owes its origin to a special principle—the tuberculous. He, too, denied most positively the teachings of Hippocrates, that consumption was due to inflammation and ulceration. To him is due the credit of discovering what is now known as miliary tuberculosis. "Out of nine hundred autopsies performed by him, he found 624 had tubercular phthisis, 185 the granular or miliary tubercle, 72 melanotic, 14 ulcerous, 4 the calculous, and 3 the cancerous." He says further: "This disease appears always to depend on a peculiarity of constitution. Hæmoptysis is a frequent symptom of consumption, and is sometimes mistaken for its cause; but it often happens that when hæmoptysis has been fatal, the lungs are found full of tubercles."

Laennec, who followed Bayle, declared that all consumptions, including scrophulosis, were nothing but the consequences of the tuberculous specific principle, which might be inherited or be acquired. In demonstrating his theory, he made use of auscultation, which it is said he originated, in accurately determining the diseased condition of the lungs. Laennec's views in regard to the pathology of consumption, notwithstanding he had very strong opponents among his colleagues, were held for a long time. Schönlein, in the main, held with Laennec, but differed most positively with him in making a marked distinction between tuberculosis and scrophulosis. At this time scores of eminent investigators were busy with this subject, and the confusion of ideas that then existed occasioned the promulgation of many widely-divergent theories; thus were described tuberculization of pus, tuberculous pus, gray tubercle, yellow tubercle, gray infiltration, tubercle granules, tubercle corpuscles, granulosis, albuminous tubercle, etc., etc. Indeed, the number of forms assumed by this disease was limited only by the number of writers upon it. This tended to give to the simplicity of the theories advanced by Laennec a great attraction to many, who held to them for sheer comfort of mind. Out of this dire confusion a way was opened by Virchow, whose cellular pathology gave us a positive science by which the theories of previous writers were exploded.

In the early part of 1882, Dr. Robert Koch made his name immortal by giving to the world the result of the researches and experiments* by which he swept away all false ideas that had existed in regard to tuberculosis for a period of over two thousand years. It was then that he made the announcement that "tuberculosis is a specific, infectious disease, caused by a specific microorganism—the bacillus tuberculosis—which constitutes, in fact, the true tubercle virus." This statement is one of the most remarkable, in its import, in the history of medicine.

Koch reached this position by the results obtained from experiments made with the tubercle-bacilli which he had artificially cultivated. He prepared a nutritive substance, and introduced into it a speck of pus taken from a tuberculous human lung. In this way he obtained a number of bacilli, with which he infected fresh material, and by frequent repetition of this process, which

*Quoted by Thomas Young, M. D. Loc. cit.

†"Morbid Anatomy," London, 1793.

‡"Recherches sur la Phthisis." Paris, 1810, p. 66. Quoted by Dr. Young. Loc. cit., p. 452.

*Die Etiologie der Tuberculose. Berliner Klin. Wochenschrift, 1882, No. 15.

he carried on for many months, he succeeded in obtaining bacilli very many generations removed from those taken from the diseased lung. These cultivated bacilli were introduced into the circulation of healthy animals, and in every instance induced tuberculosis. Tubercles in large numbers were found in the lungs, liver, and spleen of all animals thus experimented upon.

The labors of the illustrious Pasteur, of France, and of Koch, of Germany, are now well known to us all. They are the leaders of a host of equally zealous investigators who have acquired more or less distinction through their efforts in this direction.

Villemin,* Buhl,† Bollinger,‡ Fraentzel,‖ Balmer,§ Ruhle, of Bonn,¶ Lichtheim,** the late Prof. Cohnheim,†† Gaffky,‡‡ Ewald,‖‖ Ehrlich,§§ Kowalski,¶¶ Wilson Fox,*** Cheyne,††† Shakespeare,‡‡‡ Sternberg,‖‖‖ Ernst,§§§ Colin,¶¶¶ Tappeiner,**** Williams,†††† and others, who form a legion of self sacrificing, earnest, and conscientious workers, banded together in the interests of science and of their fellow-men, and inspired by the hope of being able at some future day to stay the progress of a malady which has been the occasion of more deaths than all the epidemics of disease, and all the disasters by land and sea, not only command the attention and support of the scientific world, but also the gratitude of every intelligent human being.

With a rapid but steady pace those observers are advancing on the road which will soon lead to the desired goal. The clouds of error are being dissipated by newly-discovered truths, and to-day the subject of tubercular phthisis is better understood than ever before. It is my purpose this evening to bring to the notice of the Fellows of the College some facts by which, I think, the contagiousness of tuberculosis is clearly demonstrated.

Careful researches by De Quatrefages,* Cook,† Livingston,‡ Rush,‖ Budd,§ and others, seem to prove that tuberculosis first appeared among the inhabitants of Europe, and gradually manifested itself in those parts of the world with which they had intercourse. If this is true, it is one of the best evidences of the contagiousness of phthisis. A contagious or infectious disease can have but one cause, and this is eminently true of tuberculosis, which does not arise from a variety of causes, but is solely due to the tubercle bacillus. Wherever this bacillus finds its proper nidus, it will there develop and multiply; and if this should be in living animals or human beings, the progress of the disease will be determined by the character and amount of food offered for the growth of this germ; thus with a nidus rich and plentiful we may have a case of acute phthisis lasting not more than thirteen days;¶ and, on the other hand, if the pabulum is poor and scant, the case may be a chronic one extending over a period of twenty-five years, such a case having occurred in my own practice.

The bacilli may enter the system through the lungs or by the stomach. The air we breathe, as well as the food we take, especially in the vicinity of the phthisical, may be laden with these germs. The air of the ventilating flues at the Brompton Hospital, when carefully examined, was found to contain tubercle bacilli in fair abundance.** The sputa of tuberculous patients drying upon our streets is ground into an impalpable powder by the feet of pedestrians, and is then disseminated through the air, to be inhaled alike by the healthy as well as those predisposed to tuberculosis. Such sputa, mixed with the dirt of the street, have been collected, dried, and powdered again, at fre-

*Gazette Med. de Paris, December, 1865. Also "Etudes la Tuberculose," Paris, 1868.

†Lungenentzundung, Tuberculose und Schwindsucht, 1873.

‡Archiv f. Experim. Pathologie, Bd. 1, 1873. Also N. Y. Med. Record, March, 1884.

‖Berliner Klin. Wochenschrift, 1882, No. 45.

§Ibid.

¶Medical Record, New York, May, 1883.

**Ibid.

††"Consumption as a Contagious Disease," London, 1880. Translation by H. D. Cullimore.

‡‡Report of the Imperial Health Office, Berlin, 1884. See Review of Amer. Jour. of the Med. Sci., July, 1884.

‖‖Med. News, Phila., September 6, 1884, p. 275.

§§Deutsche Med. Wochenschrift, No 19, 1882.

¶¶Wiener Medicinische Presse, February 24, 1883.

***Med. Times and Gazette, London, 1883, vol. ii., p. 672.

†††Practitioner, London, 1883, vol. xxx.

‡‡‡Proceedings of the Phila. Co. Med. Society, 1884, pp. 315, 320.

‖‖‖Medical Record, New York, October, 1884.

§§§Amer. Jour. of the Med. Sci., October, 1884.

¶¶¶Med. Centralblatt, 1873, No. 30.

****Virchow's Archiv., Bd. 82, 1880.

††††The Lancet, London, February 21, andJuly 28, 1883.

*The Human Species, by A. De Quatrefages, N. Y., 1883; pp. 428, 430.

†Ibid.

‡Ibid.

‖Medical Inquiries and Observations. Phila., 1789, p. 137.

§The Lancet. London, 1867. Vol. ii., pp. 451, 452.

¶Medical Diagnosis, by J. M. Da Costa, M D., LL.D. 6th Ed. Phila., 1884, p. 329.

**The Lancet. London, July 28, 1883.

quent intervals during a period of several months. Guinea-pigs were then inoculated with this matter, and in a short time the animals thus treated died from tuberculosis.*

To admit that the tubercle-bacillus is a pathological product, is to express a belief in spontaneous generation,† and I feel sure that none of my enlightened hearers are prepared to subscribe to that doctrine.

It is asserted, by some pathologists, that other matter or irritant than the tubercle-bacillus is capable of producing the disease. This idea is not a new one, for Richard Morton says: "Chalky stones that are preternaturally bred in the lungs; or nails and other hard bodies slipping down into the lungs when persons laugh, are to be recorded among the causes of a consumption of the lungs;"‡ and he narrates a case, p. 247.

It is also claimed by a number of writers that certain callings or occupations may be a cause of tuberculosis, owing to fine particles of dust inhaled by those employed. Thus coal miners, dry grinders, stone-cutters, moulders, operatives in cotton and woolen mills, etc., are apt to have the disease. But those who believed that the dust breathed by individuals engaged in these occupations might occasion phthisis were evidently oblivious of the fact that the air carried, in the form of germs, is a far more potent factor; and that while the dust may have produced an irritation of the air-passages, the presence of the tubercle-bacilli was essential to the production of the disease. The inhalation of irritants, or lowered vitality, occasioned by certain occupations, may cause the predisposition, but they are never the cause of the disease *per se*.

Not all the predisposing causes united could in any instance induce tuberculosis without the advent of the tubercle-bacillus. That something more is needed was admitted by Pollock twenty years ago, when he declared that there must be "some subtle agent to precipitate, concentrate, and shape these elements of disease into tubercle."‖ And Da Costa says, "Whatever it be, it is something special."§

Experiments have demonstrated, beyond doubt, that it is impossible to induce true tuberculosis in any case where proper precautions have been taken to remove from the irritant used all living germs. This is now accepted as a fact by many of those who once held a contrary opinion. Wilson Fox, Cheyne, Sternberg, and others, who performed these experiments under the conditions mentioned, have acknowledged that under such circumstances it was impossible to produce the disease.

Objections are also made to the fact that these bacilli are the cause of tubercle, because they were not found in all cases of tuberculosis examined by certain investigators. It is fair to presume that in these instances they must have escaped detection, since bacilli have been found in every case of tuberculosis examined by careful observers.

Many instances are recorded where foreign bodies have been carried into the lungs by gunshot wounds or otherwise, without occasioning much disturbance in the parts or seriously affecting the health.

Rush,* with his experience of the Revolutionary war, declared that he had never known a case of phthisis to result from wounds in the lungs; and this observation was supported by the Surgeon-General of the Royal Army.

A number of cases of gunshot wounds of the lungs occurred during the late war, but, as far as known, they were not the occasion of any death by phthisis.†

I am free to admit that, in cases where a predisposition exists, it may be still further developed by the presence of an irritant, just as a furuncle in one individual may be harmless, and in another the starting point of a cancer. The late General Baxter,‡ of this city, received a wound in the lungs on the 6th of May, 1864, and was more or less actively engaged in his duties until twelve years afterwards, when, during a fit of coughing, he ejected what appeared to be a hardened bit of pus. This, upon examination, proved to be the envelope of a small piece of coarse, red cloth, half an inch in diameter (such as is used for the stiffening and padding of coats), which had been carried into his lungs at the time he received the wound

* Med. and Surg. Reporter. Phila., 1884, vol. i., p. 697.

† Floating-matter of the Air. By John Tyndall, M. D. New York, 1882, pp. 277, 320.

‡ Loc. cit., p. 67.

‖ The Elements of Prognosis in Consumption. London, 1865, p. 337.

§ Philadelphia Medical Times, June 19, 1880.

* Medical Inquiries and Observations. Philadelphia, 1805, vol. ii., pp. 72, 73.

† Med. and Surg. Hist. of the War. Second issue, 1875, Part 1, Surg. Vol., p. 478, 481.

‡ The Daily Evening Telegraph, Phila., May 10, 1881.

[Note.—That the excretion of these bacilli might prove to be the *materies morbi*, was suggested by me some time ago; and this opinion is also entertained by Dr. G. M. Sternberg, U. S. A., who subsequently made the same suggestion in the *Med. Record*, N. Y., October 25, 1884.]

in 1864. During all this interval there had been a constant suppuration of the lungs, occasioning considerable discomfort, but not sufficient to render him unable to fill several important positions demanding his careful attention. Three years after expelling the foreign body (seventeen years from the time he received the wound) he died, it is said, from phthisis. In this instance, admitting that he died from phthisis, a predisposition to the disease was evidently established by a greatly lowered vitality, occasioned by the long-continued suppuration. For twelve years he lived without a sign of phthisis; but after he had rid his lungs of the original irritant, the bacillus tuberculosis found its way to the rich soil so long prepared for its reception, and there multiplied until the life of the individual was ended.

So certain diseases, occasioning an irritation or a lowered vitality of pulmonary mucous membrane, have the reputation of being the indirect causes of tuberculosis. Measles, especially when occurring in children of phthisical parents, are liable to have consumption as a sequel. The mucous membranes are implicated in this disease, probably more so than in any of the eruptive fevers; the epithelium is cast off, and the denuded membrane exposed to the direct contact of the tubercle-bacillus.

It has been satisfactorily demonstrated that tuberculosis may be caused by inoculation in the human subject. Laennec, whilst examining a vertebra containing tubercle, slightly wounded one of his fingers with the saw-blade. In the site of this wound, a small rounded tumor subsequently appeared, which, upon investigation, exhibited all the physical characters of tubercle. It was destroyed by the application of an escharotic, and no bad effects resulted from it.*

Another instance was that of a fisherman free from tuberculosis, but suffering from gangrene of the toe, who was purposely inoculated. Thirty-seven days after the experiment he died, and the autopsy revealed a tuberculous deposit in the lungs and liver.†

But the most satisfactory evidence of the effects of inoculation of tubercle is that presented in the case recorded by Dr. E. A. Tscherning.‡ The subject, employed as cook in the family of Prof. H., was a perfectly healthy woman, about twenty-four years of age, with a history unexceptionally free from any hereditary taint of scrofulous or tuberculous affections. After a short illness, the professor died of phthisis. The cook unfortunately broke the glass sputum-cup used by her employer, and a spicula from it punctured one of her fingers. Fourteen days afterward there appeared at this point what seemed to be a felon. This was treated at Prof. Studgaard's clinic, and at the end of a few weeks the finger was much better; a little nodule, however, about half as large as a pea, was found to exist in the subcutaneous connective tissue, which after awhile became tender and œdematous. This was now cut out, and the wound healed readily. About three months from the time of the accident, Prof. Studgaard found that the sheath of the tendon was thickened, and two cubital and two axillary glands were enlarged. He disarticulated the middle finger, and the tendon, with the thickened sheath, as well as the enlarged glands at elbow and axilla, were dissected away. Upon examination, the sheath of the tendon was found to be filled with pale granulations. Sections of the sheath and of the extirpated glands were subsequently subjected to microscopic investigation, and numerous tubercle bacilli found in them, which positively established the peculiar character of the affection.

Dr. Tscherning has observed upwards of thirty cases of localized tuberculosis, and in each instance the microscopical appearances were the same as in this case.

Many eminent men, by their constant attendance upon the phthisical and by their close and frequent study of the post-mortem conditions of their cases, have been made victims of the disease themselves. Among those who have met death in this way may be mentioned Bayle, Laennec, Delaburg, Dance, Young-Thomas; and many other names could be added.

Much stress has been laid upon heredity as being one of the chief causes of the vast mortality from this disease. It is my belief that phthisis is never transmitted from parent to child; it is simply a predisposition that is inherited. By predisposition, I mean a greatly lessened power of resistance in the tissues, especially in the lymphatic system. If tuberculosis was inherited, we might expect to find some indications of this in the fœtus; but the observations of Guizot,* Gluge,† Heller,‡ and Virchow,‖ have shown that

*Diseases of the Chest. Translated by J. Forbes, M. D. London, 1834, p. 305.

†Gazette Méd., 1872, p. 192. Quoted in Biennial Retrospect of Med. and Surg., 1871-72, p. 38.

‡Hospitals-Tidende, Copenhagen, Dec. 17, 1884.

*Quoted by Dr. Durant. Trans. of the N. Y. State Med Soc., 1878, p. 174.

†Ibid.

‡Med. News, Phila., 1884, p. 302.

‖Ibid.

this is not the case. In 1300 fœtuses examined by Heller, there was no evidence of a tuberculous taint in any one of them, notwithstanding the fact that in one instance the patient died of phthisis with the fœtus in utero. Virchow, with his experience of more than fifty years, says: "He had not seen a single case of direct transfer in the fœtus." This also holds true in regard to the offspring of animals which have been under observation while suffering from tuberculosis; there is no instance on record in which they have exhibited a trace of the disease.*

The presence of the disease in infants is undoubtedly due to the bacillus, or its spores, contained in the milk of the phthisical mother, or in the air it is constantly obliged to breathe.† In other words, the disease is not transmitted, but it is acquired. I have elsewhere shown the fallacy of the hereditary transmission of the disease.‡

There are but few insurance companies that will accept as a risk any one whose family history is not clear of tuberculosis; hence, it would seem that such careful exclusion would remove all questions of hereditary transmission in those losses which they may sustain by deaths from phthisis. One of the most conscientious companies in this respect is the Mutual Life Insurance Company of New York. It is especially careful in excluding such risks, and will not only refuse to accept an applicant who has a phthisical history, howsoever remote, but will not regard an application in which there is the least evidence of a predisposition to the disease, no matter what the age of the applicant may be. Notwithstanding the exercise of an unusual amount of vigilance, they are nevertheless obliged to declare that "consumption has been the occasion of more deaths than any other disease, giving a percentage of $17\frac{81}{100}$ of the total mortality; while deaths recorded under other headings, but properly belonging to this, would swell the number to twenty per cent."* Here, then, is a freedom from a hereditary taint as far as rigid examinations are capable of determining it. Under such circumstances the rate of mortality is surprising, to those, at least, who have faith in the hereditary transmission of the disease. A few years previous to that in which this report was made, the death-rate from consumption in the adult male population of New York city was $30\frac{17}{100}$ per cent. This is but little over thirteen per cent. of the deaths among those who were considered especially exempt from the disease.

It would be impossible to enumerate the so-called causes of tuberculosis. The disease has been attributed to every imaginable influence which could occasion a morbid condition of the system. This error is readily accounted for when it is understood that any influence which will bring about a lowered vitality of the body will induce a predisposition to the disease, which is established by the presence of the bacillus tuberculosis.

Age.—In looking over "health reports" and other statistics, I have been surprised at finding records relating to the time of life when tuberculosis is most prevalent, which are entirely at variance with the ideas entertained by many practitioners. It is very generally believed that at the age of puberty, especially in those supposed to possess hereditary taint, phthisis is most apt to manifest itself, and that the liability to contract the disease is lessened with advancing years. It seems, however, that this is not the case, for in early childhood and at puberty the mortality is less than at any other period of life. There is reason to believe that the best way to determine the time of life at which the disease is most fatal is to compare the death-rate occasioned by it at certain periods of life with the number of living persons at the same age. This has been done by several reliable persons, including Dr. Edgar Holden,† and I will read to you an interesting table prepared by A. Wuerzberg, the librarian of the Imperial Health Office, at Berlin, Prussia.‡ This table is as follows:

Of 10,000	individuals	aged	0– 1	year	there die annually of	consumption $25\frac{45}{100}$
"	"	"	1– 2	"	" "	$20\frac{41}{100}$
"	"	"	5–10	"	" "	$4\frac{86}{100}$
"	"	"	15–20	"	" "	$18\frac{37}{100}$
"	"	"	20–25	"	" "	$30\frac{24}{100}$
"	"	"	25–30	"	" "	$36\frac{78}{100}$
"	"	"	30–40	"	" "	$41\frac{12}{100}$
"	"	"	50–60	"	" "	$67\frac{94}{100}$
"	"	"	60- 70	"	" "	$93\frac{18}{100}$
"	"	"	70–80	"	" "	$61\frac{72}{100}$
"	"	over	80	"	" "	$25\frac{80}{100}$

*Practitioner, London, Vol. xxx., 1883, p. 318.

†British Med. Jour., 1879, vol. xi., p. 619.

‡"Reasons for Believing in the Contagiousness of Phthisis." Read before the Philadelphia County Medical Society, une 11, 1884.

*Preliminary Report of the Mortality Experience of the Mutual Life Insurance Company of New York. New York, 1875, p. 12.

†The Medical Record, New York, July 12, 1884.

‡Amer. Journ. of the Med. Sci., July, 1884, p. 192.

This table goes to show that at the two extremes of life, where vitality is at the lowest, thus lessening the power of resistance, the disease is most fatal.

It must not be forgotten that among the many causes which lead to a predisposition to tuberculosis, conditions of mental depression play an active part. Bad habits or immoral conduct, which lead to bitter regrets; or domestic infelicity, occasioning long-continued fret and worry, will produce a depression of this character more or less marked. A case recently came under my notice in which the patient's health was first affected by the unfortunate condition of his domestic affairs; they were the occasion of continued anxiety and worriment for several years, and finally brought him into a condition of nervous exhaustion. This was soon followed by the signs of phthisis, and he died about six months afterwards. In this case the predisposition was certainly due to a lowered vitality, induced by long-continued mental depression, aided somewhat by the patient's occupation, which was that of a book-keeper. There was no hereditary tendency to the disease, and had he been more fortunate in his domestic relations, he might still be living.

The following interesting cases, which I have personally investigated, will go to support some of the assertions I have made in my paper:—

Case 1. J. E., an invalid, was married; twelve months afterwards his wife gave birth to a child, and in the following month the father died of phthisis. At the age of five months the child died of marasmus, and in sixteen months after her accouchement the wife died of phthisis. She was of a healthy and long-lived family, but had occupied the same room with her husband during his illness.

Case 2. S. Y., was a healthy young man who married a lady that was physically below par. About a year after marriage she gave birth to a child, and from this period onward she declined in health and ultimately died of phthisis five years afterwards. Eighteen months prior to her death her husband exhibited symptoms of tubercular laryngitis, and died of consumption four weeks before his wife. In this case I ascertained that the wife had come from a tuberculous family (her parents and five sisters having died from the disease), while in the husband's family there was not a trace of tuberculosis, his parents living far beyond the allotted three score and ten, and his brothers and sisters in the full enjoyment of health. This gentleman, who was greatly devoted to his wife, had been constant in his attendance upon her, and had slept in the same room.

Case 3. I. R., a young man aged twenty-seven years, of very temperate and regular habits, who presented no family history of tuberculosis, and whose constitution and general health were excellent, married a young lady of delicate health, in whose family consumption had caused the death of father, mother, and three sisters. The occupation of the young man was that of ticket agent in a railroad office. About three and a half years after his marriage he became ill, and a year after the commencement of his illness, died of phthisis. Two years and a half subsequent to his death, his wife died of the same disease.

In the first case narrated to you the healthy, robust bride certainly contracted the disease from her husband. In the second case the young man, with an excellent family history and in good health at the time of his marriage, not only contracted the disease from his phthisical wife, but died of it four weeks before she did. In the third case we have a healthy and vigorous young man, with an excellent family history, marrying a phthisical girl from a phthisical family, and what is the result? Through his close companionship with his consumptive wife he contracts the disease, which occasions his death two and a half years before his wife succumbs to the malady.

I might add to this list a number of similar cases, were it necessary to do so, for I have the notes of many which prove conclusively the contagiousness of phthisis. Indeed, any one can lay his hands upon recorded cases without number which would convert even the most skeptical to this belief.

No one, not even the non-contagionists, can declare that the cases I have narrated are simply "coincidences." The experience of medical men, especially of those who are engaged in the treatment of lung disorders, must be similar to my own, and I cannot see how there can be a question in their minds in regard to the contagiousness of phthisis.

If the most convincing proof of the truth of a comprehensive theory lies in its power of absorbing and finding a place for new facts, and its capability of interpreting phenomena which had previously been looked upon as unaccountable anomalies,* then I know of no theory more truthful than the one which I have advocated before you this evening. It will fully explain every

*Contributions to the Theory of Natural Selection. By A. R. Wallace. London, 1870, p. 45.

phenomenon connected with this malady, the universal mortality it occasions in every part of the world, and why one member of a family after another, with no hereditary predisposition, has succumbed to its power.

It is a singular fact that in all the recorded cases where the disease has been occasioned by close association with the phthisical, as in nursing, it has been unusually rapid in its course, frequently carrying off those unfortunates during the lifetime of those from whom the disease was contracted.

And what does all this teach us? Simply this, that our real strength in battling with this terrible disorder lies not so much in medication as in the application of hygienic and sanitary laws.

Surgeon-General Von Lauer, of the Royal Prussian War Department, in a letter dated October 16, 1884, kindly enclosed to me a copy of the instructions which he issued in regard to diseases of the lungs. They are of such importance that I quote them in full. It is also of interest to know that in Austria, where the bacillary origin of tuberculosis met with greater opposition than anywhere else in Europe, the Government has recognized its infectious nature, and has issued official instructions similar to these of Surgeon-General Von Lauer. The same precautionary measures should be adopted in the hospitals of our own country, and it is fair to assume that this will be done.

(*To be continued.*)

Hospital Reports.

A CLINICAL LECTURE DELIVERED AT THE CENTRAL DISPENSARY, WASHINGTON.

BY SWAN M. BURNETT, M. D.

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(Reported for the MEDICAL AND SURGICAL REPORTER.)

GENTLEMEN: If the importance of a disease is to be measured by the frequency with which it is encountered, the class of cases we shall show you this afternoon should interest you greatly. Diseases of the conjunctiva and cornea constitute one-half or more of the cases which come under observation at our service at this dispensary. Out of 2800 entries in our last record-book we find about 800 cases each of the various troubles of the cornea and conjunctiva. This is true to a greater or less degree of all free clinics, for such affections are the constant attendants on the bad hygienic conditions of the class from which our charity patients are drawn. In private practice such diseases form a comparatively small percentage of the cases presenting themselves for treatment. These anomalies of refraction and accommodation form the large and important part of the work to be done. Still, even in private practice, inflammations of the cornea are, unfortunately, by no means the exception, particularly in children; for the two great causes of such inflammation—scrofula and syphilis, are not confined in their ravages to the lower ranks of life.

In the classification of diseases of the eye, we follow, as a rule, the anatomical method, as being at the same time the most natural and for many purposes the most practical. To this rule, however, there are many important exceptions, and we have a nomenclature based on pathological products and on the supposed etiology of the disease. But even in the latter case an accurate knowledge of the anatomy of the parts is of most essential service, not only for a clear understanding of the nature of the disease, but also for its rational and successful treatment.

As an introduction, therefore, to a study of these cases, we shall briefly consider the more important points in the anatomy of the cornea.

The cornea being one of the refracting media of the eye is a transparent substance, and as one of the results of inflammation of its tissue is to make it more or less opaque, the necessity of combating such morbid processes actively is at once apparent. It forms the anterior one-fifth of the globe, and is simply the section of a smaller sphere set on to a larger one.

We can very naturally and properly divide the cornea into five layers—a division which is not only authorized by histological examination, but also by the pathological states that are met with. These layers are, going from without inward: 1. The *epithelium*. 2. *Bowman's membrane*. 3. The *substance proper of the cornea*. 4. The *membrane of Descemet*. 5. The *endothelial layer of cells*.

The *epithelium* is continuous with that of the conjunctiva bulbi, and is formed of layers of epithelial cells lying on the membrane of Bowman.

The membrane of Bowman—or the *anterior elastic lamina*, as he called it—is a clearly-defined thin structureless layer. Next comes the *corneal tissue proper*, which is not composed of layers as is commonly supposed, but of fibres which interlace in all directions, and of the corneal cells. Then comes the *posterior elastic lamina*, or *membrane of Descemet*, from the one who first described it, and on this the *layer of endothelial cells*, which is continuous with the cell-layer covering the anterior surface of the iris.

Before going on to the study of the inflammation which affects these parts, it will greatly facilitate our comprehension of the nature and course of these morbid processes if we look for a moment to the embryology or growth and development of the cornea. It is well, occasionally, to cease our study of the more minute anatomy of an organ, and regard it no longer as composed of separate and distinct parts without any other relation to each other than a mere contiguity of tissue, but as a whole, composed of a greater number of individual members having the closest relation in their development and growth, and with, in many instances, a common origin.

In the case of the cornea there is an eminent practical advantage, as we shall see, and the greatness of the view does not rest wholly on the deductive generalization of the embryologist.

The epithelium of the conjunctiva and cornea are the same; under the microscope we see it pass over unchanged from the conjunctiva to the corneal surface. The conjunctiva proper seems to stop at the edge of the cornea, but just where it ends the membrane of Bowman begins, and it seems a legitimate supposition that the anterior elastic lamina is but a continuation of the conjunctiva, which has become transparent. In a carefully-prepared preparation of the anterior part of the eye-ball it is impossible, under the microscope, to tell where the sclerotic ends and the cornea begins, so similar are the two structures in their appearance. Applying the same idea to the membrane of Descemet, it would seem that the post-elastic lamina and the endothelial layer were simply metamorphosed continuations of the uveal tract. We know, as a fact, that the endo-thelial layer of cells is continuous with the layer of cells covering the anterior surface of the iris; and it would require no great stretch of the imagination to look upon the structureless membrane of Descemet as a condensed and transparent choroidal stroma. But, as we have said, we have not only an embryological and developmental authority for such a view of the origin of the different layers of the cornea, but it receives very strong support, indeed, from pathological changes. It is true, we have inflammations which are limited in their origin and course to the cornea itself; but there are others which are not thus independent, and which they have in common with inflammation of their, continuous layers in the globe of the eye. Thus we seldom have inflammations affecting the post-elastic lamina and its cell covering in inflammations affecting the other layers of the cornea. At one time such was the belief, and the names of "punctate keratitis," "descemitis," "pyramidal keratitis," all looking to its purely corneal origin, were given to it. But later investigations show that these peculiar pathological changes are always associated with a low grade of inflammation, generally serous in character, of the iris or other parts of the uveal tract. We find them, in other words, associated with "serous iritis," though they are not always absent in the plastic form of that disease. Some of you may remember that we gave consideration to this affection in the clinical lecture on iritis. We will speak of the affections of the anterior layer in association with conjunctival inflammation later.

Being perfectly transparent, of course the cornea can have no blood-vessels of its own, and as a consequence it must obtain its supply of nutrition from the parts lying around its base. There are those of the conjunctiva, sclera, and ciliary body. This peculiarity in its method of nutrition plays an important part in its pathology. Under the circumstances, we should not expect its power of resistance to be very great; and when there is a general failure of nutrition, we should look to find the results of it to manifest themselves here about the first. Corneal affections appear by preference among the badly-fed and ill-nourished.

The *classifications* of keratitis have been numerous, and by no means uncomplicated, but in general they have followed one of three methods, viz., the *anatomical*, the *pathological*, or the *etiological*, and some have combined two of the three. No one of the methods is entirely satisfactory from a practical standpoint, though each is possessed of advantages which the others lack, and we shall find it profitable sometimes to use the one and sometimes the other.

The general *anatomical* division is into *superficial* and profound, or *parenchymatous*. This has the advantage of indefiniteness as well as comprehensiveness, but as there are inflammations which are at the same time superficial and profound, this want of exactness is a serious obstacle in the way of its exclusive acceptance. Again, the inflammation may be *circumscribed*, or rather the products of the pathological change may be limited with greater or less distinctness, or it may be *diffuse*, and affect the cornea in its entirety. The change in nutrition may be such as to cause a destruction of the tissue and result in an *ulceration*, and this ulcerative process may remain confined to the locality first affected, or it may *creep* along the tissue from place to place, like a serpent, and sometimes when the nutritive supply is cut off by the pressure of the tensely swollen conjunctiva, as in the case of gonorrhœal conjunctivitis we showed you two weeks ago, the corneal tissue becomes necrosed, and sloughs off as a whole. When the destruction of the cornea is less than this, and affects the whole thickness of the tissue, it is called *perforation*, and the size of this may vary from a pin's point to half or more of the corneal surface. Associated with this there is always in large perforations a prolapse of the iris.

The remaining method of classification is the *etiological*, and while usually less absolute in its character, is, on the whole, the most important from the standpoint of therapeutics. Aside from traumatism, the causes of keratitis are, almost without exception, some form of mal-nutrition, and the principal agents bringing about this condition in modern life are *struma* or *scrofula*, and *syphilis*.

I have not the time to enter into a discussion of the question as to what it is that constitutes *scrofula;* nor is it necessary for our purpose. It is sufficient for us to know, that associated with it there is a lowered assimilative action, and that therefrom results an insufficient nutrition of the cornea. While the cornea may be affected from these causes in any of its parts (though rarely, if ever, in its posterior portion), the mucous layers are the ones which usually receive the force of the morbid action, and it is most commonly associated with a deranged function and pathological change of the mucous membrane of the upper air passages. In the large majority of cases, too, it is made manifest under a particular form, which has been recognized by clinicians for a long time under the name of *scrofulous*, or *phlyctenular*, or *pustular keratitis*, several examples of which I here show you. In this form we have the morbid action limited entirely to the epithelial layer, which, as we have seen, is continuous with that of the conjunctiva, forming a conjunctival layer of the cornea. From the fact that it is associated, with

rare exceptions, with the scrofulous habit, and the pustules occur indifferently or concomitantly on the conjunctiva, or the conjunctival layer of the cornea, Arlt has given the name of *scrofulous conjuncitivitis* to these forms, whether manifest on the conjunctiva or cornea. They appear as a small, round elevation of the epithelium, surrounded with vessels usually, which run as a small band to the limbus and into the conjunctiva. There may be more than one of these small vesicles, and they may be found on any part of the corneal surface.

But while this is the most usual form of keratitis attendant upon scrofula, particularly in children, we find not infrequently a deeper pathological change, and I am inclined to think that these profound keratides as associates of scrofula are more frequent in the negro than in the white race. At least we see here in this clinic a great many eyes in negroes in which the cornea is scarred over from successive attacks of deep but circumscribed keratitis.

The next most potent factor in the production of keratitis, is *syphilis*, and it usually shows itself under a special form—the *parenchymatous*—and as a rule is a manifestation of the hereditary congenital form of the disease.

Acquired syphilis does not attack the cornea. Its virulence is expended most commonly on some part of the uveal tract, the iris in particular. We are indebted to Jonathan Hutchinson for a careful study of this form of disease, and most practitioners in America agree as to the correctness of his accurate observations. At least, we always look for the "notched teeth," which are well known by his name, and when they are present we feel assured that we are dealing with inherited syphilis.

Most of you will remember this little white girl, now 13 years of age, who attended our service with such regularity during the spring and summer. To look at her eyes now, you would scarcely believe that at one time both her corneæ were so thickly covered with vessels that they looked like raw beef. Yet some of you must remember how for months they remained in that condition without any signs of change. If you look at her incisor teeth, you will see that they are notched, and have all the peculiarities described by Mr. Hutchinson. There is never any tendency in this variety of keratitis to destruction of tissue, and as a consequence, when the morbid process subsides, the cornea may regain a perfect transparency. It is only when the corneal tissue is destroyed, and its place filled by cicatricial tissue, or when there is formation of new tissue in its substance, that an opacity results. The true transparent corneal substance when once destroyed is seldom reproduced.

The *subjective* symptoms of keratitis are well marked and distinctive as a rule. There is pain, lachrymation, and photophobia. Yet there are severe cases of keratitis, in which one or more of these symptoms may be absent, nor are their intensities proportional always to the severity of the inflammation. Sometimes a small phlyctenula which happens to cause pressure on a terminal filament of a nerve, will give rise to more pain and lachrymation than an inflammation which threatens the integrity of the whole cornea. I shall not enter into a detailed study of the various forms of keratitis mentioned, for each case should be studied on its own merits, and all you can hope to learn from books or lectures are the general principles which underlie the pathology and etiology of the disease, and make an application of these to the patient in hand.

Treatment.—This must be *general* and *local*. The general treatment will depend upon the condition of the patient, and will consist generally of measures calculated to restore the nutritive powers to their proper condition; and without this general building up of the system your local means will, as a rule, be of only temporary benefit. Cod-liver oil, iodide of iron, and sometimes quinia, are the drugs we rely most on, but good feeding is better than all. Plenty of milk and beef, with an abstinence from all sweet pastries, and as much open air exercise as the patient can stand, are worth all the drugs in the dispensary. In the syphilitic cases, of course, we use mercury and iodine. For local application, we know of nothing better, on the whole, than atropine. Eserine has its champions—and in some cases undoubtedly does good—but its general usefulness is not equal to belladonna. In young children, where there is difficulty in putting the drops in the eye, an ointment of equal parts of extract of belladonna and blue mercurial ointment, rubbed on the brows and lids, will have a good effect. When the inflammation has subsided, and nature is taking up the effused material, she can be aided a good deal by the local use of mercury. The best form in which this can be used is in an ointment composed of hydrg. oxid. flav., gr. i., cosmoline, ℥ij., to be mixed thoroughly, and a small quantity placed under the upper lid once a day, and gently rubbed over the eye by means of the lid. I am inclined to believe, too, that this massage with the lid is of value in hastening the absorption. Hot applications are often invaluable for the relief of pain. The most convenient form of this is the flannel bag filled with hops, which is dipped into water as hot as it can be borne, and when the superfluous water is squeezed out, laid on the eye, and changed when it gets cold.

In young children there is often a spasm of the lids, due to the intense photophobia, which renders an examination difficult or impossible. For the relaxation of this spasm, which will have, in addition, a curative effect on the disease, nothing is so good as immersing the face in a basin of cold water and holding it there for a few seconds. It looks cruel, but it's the kindest thing you can do for the little sufferer; for as soon as it has recovered its breath and from its fright, it will look round with open eyes as it has not perhaps for weeks.

Finely-powdered iodoform dusted into the eye has been of late used quite extensively in some forms of corneal ulceration. I have no doubt of its great virtue. This colored boy was admitted with a large perforation in the lower part of the left cornea, with a prolapsus irides, which necessitated an iridectomy, and a beginning ulcer at a corresponding site on the right cornea. We began the dusting of iodoform twice a day, with rest and good nourishment, with the result of saving it from the fate of the left. In some forms of the serpent ulcer, however, nothing short of cutting

it through with a knife, as recommended by Sämosch, will stop its progress.

This operation can now be undertaken with greater confidence, since the introduction of the local use of muriate of cocaine. A drop of a four per cent. solution being dropped into the eye, the cornea and conjunctiva are rendered insensible in from three to five minutes, and the incision can be made without any pain to the patient. Under the influence of the same remedy, an ulcer can be scraped and cleaned of the necrosed tissue, which undoubtedly adds an infecting element to the disease, and the iodoform applied directly to the diseased tissue; or the ulcer can be touched by the actual cautery, a method of treatment now likely to come into more extensive trial under this new blessing of local anæsthesia.

Medical Societies.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Some Applications of Electricity in Abdominal Disorders.

Dr. William R. D. Blackwood, M. D., read a paper on this subject, saying:

I was asked by our worthy ex-president, Dr. Welch, a few days ago, to fill an unexpected lack of material for this evening's paper, and have had, in consequence, little time to prepare anything worthy of your notice; but, always willing to obey orders, I shall refer to one or two points in which electricity will be found useful in visceral disorders, although infrequently thus employed. I do not by any means discredit the use of drugs in any of the affections or conditions to which I shall refer, for well tried and known remedies are always useful, and I prescribe these confidently; but sometimes we encounter patients who just at that particular time may be averse to taking the special drug we habitually employ, and if a good efficient substitute be applicable, it will relieve the physician and patient alike, and tide us over the temporary difficulty. Persons of a bilious temperament frequently suffer from malaise not amounting to pronounced illness, hardly enough to warrant active treatment in the way of mercurials and salines; yet they are uncomfortable, and in such cases a mild galvanic current of, say, fifteen volts, will afford relief in almost every instance, and it may be that the necessity for active treatment is averted by recourse to this procedure—a point of satisfaction to such people, for they get very tired of continual drugging. I have a number of patients who never let a probable bilious attack go beyond this stage before seeing me, and they rarely need more than one application. I place the anode over the interscapular region—the cathode over the epigastrium.

It has been the fashion for some time past to neglect, or contradict rather, the result of liver torpidity in producing indigestion, and much very scientific talk and writing has been expended to show that dyspepsia, so-called, is due to stomach and pancreatic laziness alone; that reputed cholagogues of olden times were inert; but, all the same, many practitioners not quite so learned, but of a practical turn, found that in not a few cases the liver could be jogged enough to relieve their patients, at any rate, whose indigestion thereupon disappeared—which is of some importance to them, though not so interesting to speculative experimenters. It is not always judicious or advisable to employ calomel or podophyllin in rheumatic or extremely anemic subjects, and milder hepatic stimulants won't act promptly enough to suit their need, and here again the constant current is a good substitute. Free bilious evacuations are readily provoked in most persons, particularly in those of sluggish temperament, by passing moderate currents through the liver and the gall-bladder; and as a corrective of the tendency to repeated attacks, this plan works admirably. For many years I was subject to bad bilious derangement, and nothing but mercurials and salines would relieve me, though many medical friends suggested other remedies; yet now I never am thus troubled, although I have made no change in diet, or otherwise. Galvanism applied as suggested, faithfully for a month or so, has cleared up the difficulty, whatever it may have been.

Constipation dependent on loss of muscular tone is well managed by electro-therapeutics. Faradism will tone up the vermicular action of the intestinal tube, if the coil is of heavy wire. The ordinary trade coil of No. 36 calibre has not sufficient penetrating power, but a secondary of from No. 22 to 26 will act well if energized by a good cell and long primary.

Hemorrhoids arising from obstruction of the portal circulation I have repeatedly relieved by galvanization of the liver. I put the anode (stabile) over the solar plexus, the cathode (labile) over the hepatic region, with a current of ten or twelve volts, and a duration of five minutes. Faradization of the tumors, if protruded, will temporarily relieve the pain, and sometimes lessen engorgement. Now and then I have been able to return a mass more or less strangulated by this means, after failing in the ordinary methods.

I have succeeded in reducing a hernia, more than once, which resisted taxis and the ordinary accompaniments, and in which strangulation was apprehended, by faradizing the mass, and, in a severe strangulated case, in which the operator was unavoidably detained beyond the appointed time, a similar method was successful in overcoming the morbid condition, much to his astonishment, and, I am afraid, his dissatisfaction.

In a case, some years ago, in a relative, a suspected invagination of the transverse colon, was, as I believed, due to fecal impaction. Purgatives and enemata were unavailing, and I was asked if electricity would be of service should my diagnosis be the true one. I was not inclined to favor the idea, as the mass was quite hard, but, being urged, we employed faradism; one pole was applied through a sponge rheopore over the upper border of the colon, the other by an anal rheophore. The process was painful, from the scraping of the moving mass; but it certainly did progress, and in half an hour the change in position was evident, not only to the patient but to the bystanders. Next day more progress was secured, and in the afternoon the impacted material was

brought within reach of solvents and was removed. The patient plainly and unmistakably felt the onward movement at each closure of the circuit.

I have had satisfactory results from electricity in hemorrhage from the rectum, contraction of the bleeding vessels being secured by an intra-rectal rheophore. In one case both hot and ice water, simple and medicated, were useless; tenesmus was unbearable when a tampon was employed, and no desirable amount of coagulation was reached by many astringent drugs taken per orem. An enema of water containing a little sulphuric acid was given, retained by an anal pad, the rheophore introduced, and as strong a galvanic current applied as the patient could endure, and thus maintained for five minutes. At first expulsive desire was hardly to be resisted, but perseverance was rewarded by control of the hemorrhage, which, though not severe, was, from continuance, a cause for apprehension. In this connection, I may remark that galvano-cautery is not, to my mind, desirable in controlling accessible bleeding points. Although electric incandescence, through resistance and the iron fervid from absorbed caloric, are simple examples of correlation of force, practically the old cautery I hold as preferable, because more manageable and inexpensive, and, moreover, the cicatrix is less likely to be excessive. The galvano-cautery is showy, imposing, and may tickle the fancy of the laity, but its disadvantages are many, even in the hands of experts; whilst the old-fashioned arrangement is just as good, except for the larynx and nasal chamber; that is, admitting the actual cautery of any kind as valuable, which I, for one, do not grant, except in a limited field.

Pruritus ani is very often not alone disagreeable, but stubborn, and galvanism will allay the intolerable itching, though, of course, not permanently—the cause must be looked up and properly treated. Since commencing this page, I was called to see a case of general erythema with atrocious pruritis, and the itching was promptly dismissed by general galvanization. Previous experience in this case has taught me the difficulty of aborting the symptoms by usual remedies, internal or external.

Vulvar pruritus is amenable to the same treatment as that suggested for its next-door neighbor, and nothing in my hands has ever relieved so quickly the wretched burning pains of shingles, as galvanism. These items just noted are not *abdominal* precisely, but they are *abominable*, which is near enough to warrant reference to them.

In chronic low-grade cystitis, where temporary retention is now and then seen, more especially in association with enlarged prostate, a mild faradic current will stimulate the bladder to act, even though the intensity would be much less than would be requisite to secure vesical contraction.

In a case of unilateral hemiplegia lately under my care, in which retention is a troublesome factor, this method is always efficient, and the family can relieve the sufferer at once if necessary. In the opposite condition in children—that of nocturnal incontinence—galvanism is quite useful in cases where the nervous tone is below par. Cannabis indica, ergot, and galvanism, seldom fail me in such cases.

Vigoroux has proposed charging the hospital wards for cholera patients with ozone, through the intervention of the static-electric machine, as a prophylactic and curative measure. I have a man who doesn't feel comfortable unless he has cholera-morbus about eight to twelve times a year, and I have utilized the old gentleman for experiment, because I feel inclined to look upon cholera-infantum, cholera-morbus, and epidemic cholera, as expressions of a common type, under modificatons of time and place. To abort an attack (for he has premonitions) I have encompassed him with as much ozone as could be got up by a static-electric machine, under a tent, somewhat as used in tracheotomy cases, much to his disgust, for the odor is exceedingly disagreeable to him. So far the ozone is valueless, he gets the cramps, the ejections, and the dejections, as of old.

If any of our pathologists will try to strain out the comma-bacillus should it be therein contained (and the micro-germ is found in such excreta, though possibly not precisely similar in growth), I will cheerfully furnish the raw material from this case; and if I can get a few lively bacilli, I would like to see whether our French friend is right in his surmise—which I very much doubt.

Migraine, or sick headache, is nearly related in sedentary persons with bilious attacks, and so, also, is *vertigo*. These disorders are frequently an expression of super-excitability or "nerve-storms," and perturbation of the abdominal sympathetic is controllable by galvanism. I usually place the anode in the auriculo-maxillary fossa, the cathode over the solar plexus. A moderate tension for three to five minutes will clear up the difficulty in about half the cases I have tried this plan in, and I generally give a little bromide of sodium and chloroform afterward, to clinch the result.

In alluding to a few common disorders more or less amenable to electrical treatment, I have purposely omitted reference to their pathology, for two reasons. One is that an estimable patient lately told me that the gentleman under whose care he was, as an electro-therapeutist, before consulting me, told him that Philadelphia possesses two physicians only who know anything of electro-therapeutics, and only one of them had appropriate apparatus for scientific use. As our modest friend, whom we may with reasonable certainty designate as No. 1, is not connected with any hospital or medical school, I am unwilling to arouse any emulation in the half-dozen friends whom I know to be attaches of such institutions, if any of such are with us this evening, either of whom might desire to show himself worthy of being graded No. 2; and although the nervous irritability thus engendered would be positive in expression, the result might be negative should the difference of potential thus established be too great. I am proud to say that my patient is rapidly recovering under the adverse conditions deplored by our distinguished confrere. Besides this reason, the current must be interrupted by the renewal of the irrepressible conflict on the bill for the Board of State Examiners and Licensers, set for 9 p. m., now close at hand.

DISCUSSION ON ELECTRICITY IN ABDOMINAL DISORDERS.

Dr. G. B. Massey: "I entirely coincide with Dr. Blackwood in the bulk of his remarks. It is especially necessary to call the attention of general practitioners and surgeons to the value of electricity in acute cases of invagination and obstruction of the bowels, for the reason that electricity is usually a last resort, and properly so, in many cases of abdominal disease. The faradic current may be of great service in the relief of invagination or obstruction, or even of hernia, but usually is not sufficiently tried before more positive measures are resorted to.

"In regard to the therapeutical portion of the remarks, I think that light might be thrown on the subject by more definitely suggesting what the two currents can do. The physical characters of galvanism and faradism are so different, that doubtless their therapeutic action is totally different. Galvanism as used in medicine is obtained from a low number of volts, one to sixty being the usual number. In abdominal applications of galvanism, the volts would vary from five to twenty or thirty, being in accordance with the number of cells used, if they are of the blue-stone variety, which is equal to one volt. The resulting current, with the human skin as a factor of resistance, gives an ampere strength which varies from five to thirty or forty milli-amperes. The current may be said to be one of low electro-motive force, but of a large number of units of volume.

"The faradic current, on the other hand, usually has from one hundred to several hundred volts of electro-motive force, but the ampere volume is practically *nil*. In this current there is therefore no chemical stimulation of tissue, but a power of shocking nerve and muscle by the sudden development of considerable electro-motive force.

"To carry the difference still further, I may say that the static current, or franklinism, contains from many thousands to millions of volts of electro-motive force, but no volume to speak of. The galvanic current has many units of volume, but no electro-motive force to speak of. In the one case, we have a current of thousandths of an ampere, while in the other we have a current of thousands of volts. The faradic current lies between these two extremes. This difference is an important one. The physiological and therapeutic effects of the two currents differ widely. In the one case, we have merely a shock or stimulation of the nerve or muscle from a sudden application to it of a considerable electro-motive force. In the other case, we have an interstitial change, an added metamorphosis of tissue, due to the chemical action of a current of volume. Where it is desired to stimulate a muscular fibre, as in dilatation of the stomach, or in a tonic constipation, the faradic current would be the one to use. Where we wish to act upon an organ *en masse*, and to set up changes which have been designated for long ages as alterative, we should use the galvanic current.

"I can corroborate what has been said in regard to the action of galvanism on the liver, and I think this action can also be exerted on the glands of the stomach.

"I should like to suggest the possible value of galvanism in the early stages of Bright's disease. As is doubtless well known to you, two Philadelphia physicians, Drs. Da Costa and Longstreth, think they have traced the starting-point of Bright's disease to the renal ganglia, and they suggest that other ganglia of the sympathetic system may also participate in initiating the pathological processes which culminate in the condition known as Bright's disease. It seems to me that if such pathological relations could be established, stimulation of these ganglia by considerable volume of the galvanic current would be of value.

"In conclusion, I would like to remark that the volume of current, especially of the galvanic, is influenced greatly by the size of the electrodes in per-cutaneous applications. As the skin is the hardest portion of the circuit to be overcome, the greater the area of skin under the influence of the pole, the greater the amount of current that can be introduced from the same number of volts. Large electrodes are therefore indicated in the introduction of considerable bulks of current painlessly into abdominal organs."

Dr. Blackwood, in closing the discussion, said: "Many points were omitted, and others briefly touched, because, as stated in the paper, the time was limited. The reference by Dr. Massey to the differential employment of galvanism and faradism, and the use of large rheophores, was important—galvanism being in ninety-five per cent. of all cases indicated; but general practitioners rarely used other than faradism, from the initial high cost of constant batteries of necessary size, the difficulty and expense of maintaining them, and lack of ability to repair injuries to the mechanism without the aid of the manufacturer. Dr. Massey's remark about the number of volts used in abdominal work leads me to refer to the apprehension, which Rockwell and others felt in using currents of fifteen to twenty volts in extra-uterine pregnancy. I have treated two cases successfully, and have run the force up to fifty-nine volts (through a rheostat), before becoming satisfied as to the success of the application in the latest instance. No bad effect, constitutionally, followed this powerful current. The local effect on the skin was severe. Much is yet to be learned regarding treatment of such affections as Bright's disease and disorders dependent on the sympathetic, and I feel that hereafter great good must result from the scientific use of electricity in such cases."

Discussion on Spasmodic Tabes Dorsalis. (*See page* 367.)

Reported by Wm. H. Morrison, M. D.

Dr. Chas. K. Mills: "This subject has long interested me. Dr. Keating has referred to the fact that so long ago as 1879, I reported in the *New York Med. Rec.* several cases of this affection. Undoubtedly, the majority of these cases are due to congenital arrest of development of the general cerebro-spinal motor tract, including in that term not only the tract as used in the ordinary sense, but also the motor areas of the cerebral cortex. It is of the utmost importance to recognize these cases, and separate the two classes which may be met. The functional, curable cases, not dependent upon this peculiar arrest of development of the central nervous system, are uncommon.

"Two, or perhaps three, varieties of the or-

ganic cases are found. In the first place, we have a set of cases in which only one side of the body is affected—spasmodic infantile hemiplegia; secondly, there is a class of cases, paraplegic in character, the legs alone being affected; and, thirdly, cases are met with in which both arms and legs are affected, usually regularly, although sometimes irregularly as regards the manifestations in the different limbs. Since reporting the cases already referred to, I have seen a number of cases of this affection.

"Some have held that the paraplegic cases may be due to lesion of the spine, spinal membrane, or cord. Ross discusses this view. He suggests that these cases may be due to one of two or three lesions occurring at the time of birth. He had noted that in several cases which he had studied, the child had been born feet first, and he suggests that perhaps in some of these cases, dislocation, pachymeningitis, or perhaps hemorrhage in some part of the spinal canal has occurred, with secondary degeneration of the motor tract—in other words, a compression myelitis, with secondary degeneration of the motor tract. I cannot recall a single case in which this relation could be made out. Again, it has been thought that the application of the forceps sets up this trouble. This has not been substantiated. Dr. Sarah J. McNutt (*American Journal of Medical Sciences*, January, 1885), in one of her cases, expressed the opinion, before death, that the condition was due to the application of the forceps at the time of birth. A post-mortem examination, however, showed that this view was not correct. This point in regard to cause is important as bearing on the treatment.

"I have taken these cases of spastic infantile paralysis, and setting aside all theories, have treated them for months. In one case, I carried out attempts at treatment for nearly two years. In that case, which was not one of those reported by me, there was spastic paraplegia and a spastic condition of one arm, with some strabismus and speech defect. I first treated the patient medicinally and with nutrients, in the manner spoken of by Dr. Keating, and then used electricity both in the form of the faradic and of the galvanic current. I also employed nerve-stretching without cutting; after etherizing the patient, forcibly stretched the sciatics, but without effect. I next resorted to persistent training of the patient to stand, handle, talk, etc., and if anything holds out a hope of benefit in these cases, it is this. More, and this was not much, was gained by this measure, than from all other forms of treatment.

"Everything goes to show, I repeat, that most of these cases are due to congenital arrest of development, and therefore nothing very positive can be accomplished by treatment. I do not believe that the affection comes on at the end of eight or ten months, or that it is produced by exposure; I also believe that only rarely is it due to injury at birth.

"A few of these cases have been operated on by surgeons in various ways. Not only has excision of the prepuce been practiced, but tendons, sometimes many tendons, have been cut. Such operations cannot be of much benefit. I, however, do not know that they do harm, and in cases of great deformity they may be of temporary benefit.

"Just as there is what is called a primary lateral sclerosis in adults, so we may have a hysterical spastic paralysis, and it is most difficult to distinguish between the two. We may meet with reflexes, cases in children, of tonic, spastic condition affecting both legs or an arm.

"The congenital arrest is usually marked in the cortical motor area, where the atrophy may be visible to the naked eye. It may affect the ascending parietal, the ascending frontal, and the third frontal convolution. Microscopical changes are present in the layers of the cortex, and all the way down the tracts and out the nerves may degeneration be traced.

"Another practical point is in regard to the use of apparatus. I have seen a little patient literally loaded down with mechanical appliances. In this case, not only was the child unable to move the limbs, but it had to carry the additional weight of the apparatus. I think that, as a rule, although not without exception, and particularly in the extreme cases where children are scarcely able to walk at all, that little is to be gained by the use of apparatus. There may be a few mild cases in which an apparatus may assist the child in performing movements."

[In reply to a question by Dr. R. J. Levis, whether tenotomy of the contracted muscles would not be advisable, to relieve the continuous strain on the extended muscles, Dr. Mills said: "I think myself that some apparent temporary benefit may be derived from division of the tendons, but these patients cannot be permanently or markedly improved by such operations. In the first place there is at the bottom of the trouble a central, organic, nervous defect; a large number of muscles are in the spastic condition, and if these tendons are divided, relieving for the time being the over-stretched muscles, they will re-unite, and probably lead to additional deformities."]

Dr. Sinkler: "I agree with Dr. Mills that there is more than one variety of spastic paralysis in children. As regards prognosis, it is most unfavorable in the congenital cerebro-spinal form. There are, however, cases of purely spinal origin, where recovery takes place. I saw such a case three or four years ago, in a child six years of age. There was a distinct spastic gait, exaggerated reflexes, and, if I remember rightly, both legs and one arm were affected. A couple of years later, I was informed by Dr. Allis, with whom I had seen the case in consultation, that the child had almost entirely recovered.

"Last year I saw another case, very soon after its beginning. A boy, five years of age, was brought to the Infirmary of Nervous Diseases, within a week or ten days after the beginning of the trouble. At the outset, he had some fever and pain. The first symptom noted was stiffening of the legs when the patient was placed on his feet or attempted to walk. He was unable to walk or to stand alone, but the use of the arms was not interfered with. The reflexes were all exaggerated. The nutrition of the muscles was well preserved, and his general health was good. The electro-muscular condition was normal. While under observation—a period of six months—he progressively grew worse. Every measure which suggested itself to me was tried. He had contracted adherent prepuce, which was operated on

without the slightest benefit. Galvanism of the spine, massage, and the internal administration of ergot, bromide of potassium, and conium, had no effect on the muscular spasms. I may here remark that I have found that the measures which have been successfully used to diminish the stiffening, have still further interfered with the ability to walk. When the muscles are relaxed, the patient cannot progress as well as when the muscles are stiff.

"In regard to tenotomy, another objection is that the muscles are, as a rule, in a state of contraction only when the attempt at movement is made. When a patient is at rest, the muscles are relaxed, except in very advanced cases."

Dr. De Forest Willard: "I have seen but two cases of this affection, and therefore feel that I cannot speak from experience. In both these cases my advice was against tenotomy and the use of apparatus. If the contraction of one set of muscles was causing deformity, relief should be given by means of elastic tension, so as to assist the comparatively weak group. If no deformity existed, I think that apparatus would be harmful, since the proper treatment would consist in the development of the muscles by gymnastics, manipulation, and so on.

"Tenotomy would be of only temporary service, unless by its use a limb might be put in a better position for walking, which in itself is a most valuable gymnastic exercise. Manipulation should be the first step in treatment; operative and mechanical measures should follow as required."

Dr. John M. Keating: "It was with a great deal of difficulty that I arrived at a designation for this paper, and I finally adopted the French term, not so much because it suited the subject, as because there was no other name which would take in all the troubles of which this spastic contracture was a symptom. I look upon spastic contracture merely as a symptom varying in intensity from simple irritation to advanced disease of various kinds. I believe that there are cases resulting from irritation of certain centres in the cord, following certain blood-poisonings, with, perhaps, spastic contracture of the lower extremities, which are curable, but which, if allowed to run on, may become worse and develop lesions not at present understood. In the cases reported recently there has been no post-mortem record. Death has occurred in a few cases from pneumonia and from tubercular disease, but no examination of the cord has been made; or, if made, no evidence of lesion has been found. These cases may, I believe, from improper treatment or want of treatment, go on from bad to worse, and become chronic. They, however, do not endanger life, and they are supposed to be limited chiefly to the lower extremities, and rarely involve the arms.

"The case quoted from Dr. Mills was clearly one of congenital deficiency or faulty development of certain cerebral centres in the neighborhood of the fissure of Rolando. In such there seems to be but little prospect for other treatment than has been suggested in the discussion this evening. I call attention to these matters, which I hope will interest the members present, and urge them to report their cases and post-mortem examinations."

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated meeting, Thursday, March 5, 1885. The President, B. F. Baer, M. D., in the chair.

Dr. Wm. Goodell read a paper entitled

A Year's Work in Laparotomy.

During the past year he had had thirty-two laparotomies. Of these, twenty-two were ovariotomies, eight öophorectomies, one hysterectomy, and one exploratory incision.

Of the twenty-two ovariotomies, ten were performed in the hospital of the University of Pennsylvania with three deaths, seven at his private hospital with one death. In eleven, both ovaries were removed. Seventeen had adhesions, which in seven were very formidable. Four of the women were over sixty years of age, and of these one died. In not a single instance did he refuse to operate, although three of his patients were very ill at the time of the operation.

The causes of death were as follows: An old lady, aged sixty-three, from whom a tumor weighing sixty-five pounds was removed at the hospital of the University, died suddenly from acute uremia, after doing well for three days. One kidney was found riddled with abscesses, the other was contracted. The second death also occurred at the same hospital, but from peritonitis, caused, probably, by hospitalism. The third and fourth fatal cases were in advanced stages of septicæmia when operated on. Each one had high temperature, frequent pulse, and night sweats from suppurating cyst. In addition, one was bed-ridden and had bed-sores. The other had greatly swollen legs, although the tumor was a small one. In each, the adhesions were universal and very formidable. The former died from shock fifteen minutes after the operation. The latter lived one week. Here was a dermoid cyst, which in his experience was liable to have extensive and firm attachments, making removal often difficult and dangerous. Dermoid cysts also were very vulnerable, taking on inflammation on the slightest provocation. In this instance, a physician had removed some of the fluid with a hypodermic needle. He (Dr. G.) had had two cases of small cyst in Douglas's pouch, in which violent inflammation followed the use of the aspirator. The lives of his patients were, for several days, in danger, but fortunately they recovered with obliteration of the sac. This should render one cautious about touching a dermoid cyst, unless he is prepared to perform the radical operation.

The fifth death occurred in a case forlorn from the outset. Five years ago, Dr. Goodell had removed a very large colloid cyst of the left ovary from this woman. A year ago her health began to fail coincidentally with the appearance of another abdominal tumor, and she was rapidly pulled down. On opening the abdomen, Dr. G. found that the cyst had burst some time before, and that a colloid material had escaped in large quantities into the peritoneal cavity. The degeneration was plainly malignant, as the womb, broad ligament, bladder and the parietal peritoneum, were studded with papillomatous masses. Dr. G. did not see her again, but her physician, Dr. Bauman, of Telford, wrote that the wound healed perfectly, no abnormal symptoms set in, yet the

woman grew weaker and weaker, dying from exhaustion on the sixteenth day after the operation.

Dr. G. stated that this was the only case in which he had twice performed ovariotomy in the same patient; but that he had at present a lady under treatment from whom, four years ago, he had removed the left ovary for cystic degeneration, and in whom the right ovary is now enlarging and will need extirpation before long. The liability of the sound ovary becoming diseased amounted in his cases to 1.5 per cent., and this strengthened him in the conviction that in women approaching the climacteric both ovaries should, as a rule, with but few exceptions, be removed. That this case made his third one of colloid degeneration in which the sac had burst some time before the operation. In each, the disease was evidently malignant. One survived the operation and went home, but died a few weeks later from a reaccumulation of colloid in the abdominal cavity, and a sprouting out of a crop of papillomata from the cicatrix in the abdominal wall. In the second one, both ovaries were removed, and from great emaciation and weakness the woman became plump and strong. She did well for two years, when a tumor made its appearance in the left broad ligament. A year later she died after much suffering. From this experience he would look upon colloid cyst with suspicion, and would give a guarded prognosis in respect to ultimate recovery.

With regard to the causation of ovarian cysts, he believed more and more that single life, sterility, and unfruitfulness, whether natural or enforced, were important factors. Thus, out of his twenty-two cases, nine were unmarried, and one was a widow. Again, of the married, one was sterile, one had borne but one child, and three had had only two children.

During the past year he had also performed eight öophorectomies. Three of these operations were demanded for excessive neuralgia and dysmenorrhœa from multiple fibroids, and two of them died, the difficulties of the operation being great. The other öophorectomies were performed for pernicious menstruation, ovaralgia, and threatened miscarriage, and were successful. In no case did menstruation return, although in one there was a slight show of blood.

Of other laparotomies he had performed two, one of them an exploratory incision in a woman greatly reduced by pain and obstruction of the bowels. Cancer of the pelvic organs was discovered. She died very suddenly from supposed embolism. The other laparotomy was a successful hysterectomy. The tumor weighed thirteen and a half pounds, and consisted of the womb with many large fibroid growths. The adhesions to the abdominal walls, bowels, and omentum, presented many difficulties, and needed many ligatures. The stump, which was fully four inches in diameter, was encircled by Kœberle's wire clamp, and treated outside of the peritoneal cavity. The patient recovered slowly and without a bad symptom.

The President presented a "gangrenous fibroid tumor of the uterus," and made the following report of the case: Mrs. J., a patient of Dr. Ira D. Canfield, of Renovo, Pa., fifty-two years of age; married; has had one child eighteen years ago; she has not been pregnant since. Her abdomen had been rather prominent for years, and about five years ago she discovered that it was becoming quite firm and hard over the lower protuberant portion. About the same time her menses began to appear more frequently than usual and to continue longer, until during the last year she flooded continuously three weeks out of every four. She thought she sometimes lost a quart of blood in twenty-four hours. There was great tenderness over the abdomen, so that the weight of the clothing was intolerable, and she had a constant feeling of painful distension, a sensation of bursting sometimes. These symptoms increased in severity, and in the latter part of January, 1885, labor-like pains supervened. Paroxysms of uterine tenesmus occurred several times a day, resulting, finally, in a discharge of serous fluid and gas, which must have been considerable in quantity, for the next morning there was marked subsidence of the previously distended abdomen. However, the large, dense, round, and evidently uterine tumor still remained, tolerating now comparatively rough manipulation, the tenderness having almost entirely disappeared. The quasi-labor-pains increased in frequency and strength, and shreddy putrid masses were occasionally expelled from the vagina. The patient began to show evidences of acute septicæmia. Dr. R. Homsbrong, of Lock Haven, was now called in consultation, when it was determined that nature was endeavoring to cast off a decomposing uterine fibroid, and an effort was made to assist. Symptoms of blood-poisoning became alarming.

On February 15 I was hurriedly summoned, and, with the patient anæsthetized, we found the following condition: Abdomen distended and tympanitic. A globular and symmetrical mass outlined within the lower portion of the abdomen, extending two inches above the umbilicus, about the size and consistence of the pregnant uterus at the seventh month of gestation. Hanging from the vaginal orifice was an elongated mass of toneless decomposing tissue, which resembled the appearance which might be presented by a great mass of amniotic membrane which had been allowed to remain in the parturient canal for several days after labor. It had a purplish, ashy color, and was as thick as my forearm. The odor emitted was sickening. Passing my hand beside this mass, for I could not easily separate it, I found the os uteri so dilated that the vaginal and cervical canals were almost of the same calibre, and the rim of the os could scarcely be defined. Advancing my hand within the cavity of the uterus, it passed among an immense quantity of semi-friable, soft, and shreddy tissue, and discovered several large tumors of firm consistence imbedded in, and apparently one with the uterine wall. Indeed, it was difficult to define the uterine wall, so irregular and thick was it at some points and so thin at others. The tissues at the attenuated portions—the uterine wall proper—appeared so weak that I feared the manipulations necessary to enucleate the tumor would make rupture of the uterus imminent. But their immediate removal was imperative, and fortunately their attachments were softened by the powers of degeneration which had caused the grave symptoms. I therefore introduced Thomas's spoon-saw-

and with that and my fingers I separated and removed section after section until there was nothing left of the uterus but the merest shell. The aggregated quantity removed, a portion of which I present this evening, almost half-filled a wooden bucket. The uterus did not contract well after the operation, and very free hemorrhage occurred, but it was controlled and the uterus made to contract by large and repeated injections of pure vinegar. The after-treatment was carefully and judiciously conducted by Dr. Canfield, and consisted of injections, into the uterine cavity, of vinegar twice daily until all fetid discharges had ceased. The improvement in the temperature and pulse of the patient was remarkable, and within a few days she expressed herself as feeling better than she had for years. She is now sitting up, apparently restored to health.

Dr. Harris inquired the cause of the gangrenous change in the structure. Was it confined to the new tissue?

Dr. Goodell thought that the process of autoenucleation was the cause of the degeneration of the tumor. The latter is a low grade of formation, and the contractions of the uterus and the constriction caused by the cervix-uteri around the already extruded portion interfered with the circulation in the tumor and caused its death. In one case he removed a tumor in which this process had just commenced; the removal of the tumor was followed by a gush of near half-a-pint of broken-down blood which was very offensive in odor. A sharp attack of erysipelas followed.

Dr. Baer could give no other reason than that advanced by Dr. Goodell. The tumor was of slow growth; No ergot was given, but labor-like pains supervened and may have cut off the circulation. The degeneration was apparently confined to the new growth.

(*To be continued.*)

EDITORIAL DEPARTMENT.

PERISCOPE.

Weak Heart.

We take the following from the *Medical Press*, March 18, 1885:

Every physician in extensive practice is occasionally brought into contact with cases of heart failure, of which the essential nature is somewhat obscure, and which are frequently recorded, when terminating fatally, as angina pectoris. As an example of the kind of illness typical of such affections some such history as the following may be taken: An apparently healthy man of sixty or sixty-five, of florid build and choleric temperament, is attacked soon after the exhibition of unusual excitement, with acute pains over the cardiac region, accompanied by shooting pains down the left side and arm, and a general sense of oppression. There is no loss of consciousness, no actual paralysis, although some degree of numbness may be experienced in the hand, but without materially diminishing the force of its grasp. Occurring in the absense of the physician, the bystanders administer stimulants, and resort to rubbing the arm of the sufferer, with resulting relief to the symptoms; and in an hour's time probably the attack so far remits as to admit of the patient's moving about more or less freely; or a fatal termination may then and there occur. It is more likely, however, that, as in the most recent cases of the kind we have encountered, an interval of rest will be noticed, and then, on a renewal of movement, the symptoms will once more set in, this time, perhaps, less violently than at first, and apparently ending in the appearance of quiet repose, during which death ensues almost without any indication of its approach.

Very often the subjects of such illness are unable to recall that they have ever been similarly attacked; they have not, that is, as is usual among the victims of angina pectoris, been for a greater or less number of years suffering from spasmodic affections of the heart, and to their own knowledge this organ of their economy is free from any kind of disease. Nor, as far as our own experience goes, does auscultatory examination yield any positive or reliable signs, with the exception that its sounds are distant and indistinct; but the most careful observation will fail to make out anything deserving the name of diagnostic indications. Moreover, the evidences of cerebral lesions are altogether absent, and the suggestions of any such origin for the symptoms exhibited in the cases described must be entirely excluded on purely clinical grounds. Neuralgia also can hardly be accepted as explaining the phenomena, inasmuch as a sudden single attack of so violent a nature as to produce a fatal result is improbable, to say the least; and wherever this cause is responsible for death, it is reasonable to assume that the final illness will have been preceded by less severe indications of cardiac neuroses. It is consequently necessary to look for some other producing cause of the effects, and this may with some assurance be assumed to reside in a deterioration of the heart itself. As already hinted, the subjects generally found to suffer in the manner under discussion are those in whom the existence of fatty heart might be reasonably suspected; and the *modus operandi* of the changes taking place under such conditions is not difficult to comprehend. As the structure of the walls degenerates the propulsive power of the heart is *pari passu* reduced, and a time ultimately arrives when its action suffices only to maintain the circulation, under conditions of ordinary and unexcited life. Even now, however, the habits of the individual are unconsciously adapted to the failing strength of the organ; all unusual exercise is avoided, and without at all being aware of the fact, the patient foregoes most of his customary exertion, the only point which presents itself to his mind being that he is "growing

old." This may continue for a length of time, but should it happen at any moment that either by indulging in a fit of passion, or by taking sudden and violent exercise, the heart is called upon to perform a labor beyond its diminished powers, then the strain becomes more than it can resist, and the attack described results. The popular remedy, a stimulant, usually in the form of whisky, which is at once administered, acts as a temporary aid to the exhausted organ, which, however, is left in a still more exhausted state when its effects have disappeared, and being then still under call to continue its normal action, it responds with rapidly-lessening strength to the needs of the circulation, and with or without a renewal of severe symptoms, it slows into death.

Such, we take it, is a general explanation of a large proportion of the deaths which have of late figured in reports as being caused by angina pectoris, and the frequency of which has caused some degree of surprise. We cannot, however, hope that treatment is likely to be materially assisted by acceptance of this view, since the structural degeneracy of the implicated organ must necessarily militate against any permanent restoration of its function; the more especially as the occurrence of an attack of illness offers a certain indication of its being inadequate to meet the calls made on its resources. Such failure in fact is proof that the organ has advanced so far in decay as to render its performance of even ordinary work uncertain, and it is suggestive that a great part of the cases observed are seen in persons in whom, on *à priori* grounds, fatty changes are indicated. Possibly also, many other sudden deaths, the reason for which is often obscure, may have been brought about by similar means; and the subject is at least one worthy of receiving attention.

Hemiplegia—Cerebral Softening—No Hemorrhage.

Mr. Thorowgood reports the following case in the *Medical Press*, January 21, 1885:

James B., æt. 50, while at work at St. Paul's Schools, Hammersmith, on November 14, 1884, suddenly became giddy, but did not fall down, and kept on with his work as a laborer until Saturday, November 15, when he found himself unable to walk and unable to move his left arm. On November 24, he was admitted into the West London Hospital. States that he has been feeling giddy, and as if he were tipsy. Generally, he has had good health, but last July had a sunstroke and fell to the ground. He had no medical assistance, and was all right in about four hours. Has had syphilis.

Present Condition.—Patient looks older than his years. He lies on his back; the conjunctivæ are congested; left pupil dilated, and he does not see well. The angle of the mouth is drawn down on left side. He can close his eyes and distend his cheeks. There is entire loss of motion in left arm and leg; the muscles feel lax and soft, but there is no loss of sensation. Tongue, when protruded, points to left side. Reflex movements cannot be excited; left arm and leg colder than the right. Right side of chest moves more freely than left in respiration. Patient speaks thickly, and complains of pain in forehead; has passed a motion in his bed. First cardiac sound weak, but free from murmur. Pulse 96; temperature 98.2°; urine acid and free from albumen—sp. gr. 1020.

Diagnosis.—Softening of central parts of brain on right side; probably no hemorrhage. A mixture was ordered thus:

℞.	Ammon. carb.,	gr. v.
	Potass. iodid.,	gr. iij.
	Tr. cinchon. co.,	℥j.
	Aq.,	ad. f. ℥j.—ter die.

The patient gradually became more feeble—and less intelligent.

December 2.—The temperature rose to 102°; his urine had to be drawn off by the catheter, and was very offensive and ammoniacal. At times he was sick; pulse was 100. No clenching of fingers observed, and paralysis remains as at first. A mixture of diluted acid hydrochloric, in infusion of buchu, was ordered on account of the condition of the urine. Gradually symptoms of congestion of both lungs came on. Temperature rose to 102.8°, pulse to 120, and rales were heard all over chest, both front and back.

December 10.— Respiration, 30. Diaphragmatic movement marked. Urine is drawn off by Mr. Thompson from time to time, and blood is seen in it. Motions passed involuntarily. Brandy and nourishment were fairly taken, but on December 14 patient died.

The post-mortem examination was made by Mr. Percy Dunn, twenty-four hours after death. No excess of subarachnoid fluid. Vessels of pia mater full. Arteries very atheromatous — the right anterior cerebral almost occluded, and left in a similar condition, but less advanced. The central portion of the right hemisphere was in a state of white softening for a space of about two inches. The disease was situate above the lateral ventricles. In addition, there were patches of softening in each crus. Some old pleural adhesions were found, and both lungs were in a state of hypostatic congestion. The heart weighed 16 oz.; ventricles dilated, and the mitral valve was thickened and incompetent. Liver was congested: kidneys granular, contracted, and with adherent capsules. The bladder was hypertrophied, contracted, and the mucous membrane was sloughing.

Remarks.—The interest of the present case seemed to lie in the clear indication of cerebral softening, to the exclusion of hæmorrhage. The weak and poorly nourished condition of the patient; his liability to attacks of giddiness; and, lastly, the fact that in his final seizure he had no loss of consciousness and no sudden fall to the ground—all seemed to indicate white softening. During the progress of the case no convulsive movements took place, nor was there any muscular spasm or rigidity. Failure of respiratory power, with prolonged expiration and mucous rales, eventually carried him off. The softening being found in the substance of the brain above the ventricles may have been the cause of the early failure of his intelligence.

Rapid Anæsthesia by Ether.

Dr. A. F. Muller thus writes in the *Med. News*, April 4, 1885:

The following method of rapid anæsthesia by ether was suggested to me seven or eight years

ago by a thought that the great length of time often consumed in etherizing patients was due to the fact of the frequent interruptions necessary to replenish the cone or towel used for the purpose, and the consequent partial recovery of the patient. To obviate the difficulty and obtain a continuous flow of pure ether vapor, I had made an apparatus, consisting of the two valves of a rubber foot-ball, sewed together at the edges and connected by a tube with a bottle containing ether, which is plunged into a bucket of hot water. Ether boils at 98°, and vapor passes over steadily and rapidly, and is inhaled by the patient, whose face is covered by the inhaler, protectected by a clean towel.

The result has been surprising, as will be seen by the following cases, all etherized by this method within the last three months at the Germantown Hospital. In none of the cases was there nausea previous to anæsthesia; one at least came to the house the morning of the operation having eaten a hearty breakfast. In most cases no struggling, and if so, only slight; no stage of excitement. In cases that require only a few moments for operation, the patient wakes up nearly as quickly as after nitrous oxide. After the patient is etherized, the amount passing over can be regulated by a stopcock at the bottle end of the tube.

The apparatus I have used is very crude, made only for the purpose of experiment, and I am having an improved one made, which I hope will be more satisfactory in some of its details.

The quantity of ether used to produce complete insensibility in no case exceeded three ounces; in some it was less than an ounce and a half.

Case 1. D. E., epithelioma of eyelid; plastic operation; unconscious in thirty seconds.

Case 2. K. McF., peritomy: unconscious in one minute twenty seconds.

Case 3. K. McF., peritomy: unconscious in one minute eleven seconds.

Case 4. M. P., paronychia and palmar abscess: forty-five seconds.

Case 5. Mrs. B., lacerated cervix: one minute twenty seconds.

Case 6. Mrs. B., lacerated cervix: one minute fifteen seconds.

Case 7. Bilateral lithotomy: one minute fourteen seconds.

Case 8. Miss M., dilatation of cervix: one minute forty seconds.

Case 9. Mrs. T., laceration of cervix: one minute twenty-four seconds.

Case 10. Mrs. S., fracture of anatomical neck of humerus: one minute seventeen seconds.

Case 11. Mrs. M., fracture of tibia and fibula: forty seconds.

Case 12. Mrs. M., fracture of tibia and fibula: one minute forty-five seconds.

Case 13. Mrs. B., fracture of tibia and fibula: two minutes.

Case 14. Cataract: one minute fifteen seconds. This man when operated upon in the Germantown Hospital for cataract in the other eye about a year ago, took a large quantity of ether, and required an hour to put him under its influence.

Case 15. Mrs. D., amputation of forearm: one minute thirty seconds.

Case 16. McLane, hypopyon: one minute twenty seconds.

Case 17. Mrs. S., lacerated cervix operation: one minute thirty seconds.

Case 18. Cleaver, sarcoma of iris: one minute twenty seconds.

Primary Sarcoma of the Penis.

To the Pathological Society of London (March 17), Mr. William Henry Battle showed a specimen of sarcoma of the penis removed during life. The patient was a gentleman, aged 60. There was no history of malignant disease in the family, and he himself had never had any serious illness. Ten months before coming under treatment, he had first noticed a blood-stained discharge from the urethra after micturition. Gradual enlargement of the penis, unattended by pain, ensued, and he had several attacks of hemorrhage during the last few months, chiefly after straining, but was only examined a fortnight before he came under Mr. Battle's care, having had a more serious loss of blood. He could give no information as to the exact point of commencement. He was a well-built, sallow, and somewhat emaciated man. The penis was considerably enlarged at the extremity, the prepuce in a state of phimosis, and stretched over a growth, portions of which projected from the orifice, dark colored and spongy in appearance. The enlargement extended an inch and a half into the body of the organ, was smooth and elastic, projected a little unequally, and was distinctly limited above. There was no ulceration visible. The inguinal and pelvic glands could not be made out to be enlarged. There was no pain, and no evidence that the internal organs were diseased. The urine flowed in three distinct streams. Three days after his arrival, hemorrhage followed the detachment of that portion of the growth which had been noticed at the orifice of the prepuce. In consequence, the organ was at once amputated by means of the knife and galvanic *écraseur*, close to the pubes. There was scarcely any hemorrhage. In the evening he had retention of urine; a catheter was passed, and the urine gushed out both through and by the side of the catheter, giving the impression that there was hypertrophy of the bladder. No inflammatory swelling followed the operation. There was, however, a purulent discharge from the stump until he left for home a month later. He had gained flesh and strength. The patient, unfortunately, died forty-three days after the operation. His symptoms, which were great thirst, profuse perspirations, jaundice, hiccough, and probably some gangrene of the scrotum, pointed to secondary new growth in the liver. Examination of the growth showed that it was distinctly circumscribed above, whilst the free surface was fungating and shaggy. The urethra was lost in the growth. A microscopical section showed it to be a sarcoma, containing small and large round cells, spindle-cells, and, especially near the free surface, very small cells, probably of inflammatory character. To judge from published records, sarcoma of the penis was a very rare disease. One case had been brought before the Society, by Mr. T. Holmes, in 1872, a melanotic indurated sore of the penis, which consisted of spindle and fusiform cells. One other was mentioned by Dr.

Gross, in his *System of Surgery;* it involved the body of the organ, and spread to the pubes. The patient died after its removal. The only specimen in the London museums was from Mr. Holmes's case, in the museum of St. George's Hospital. And, although it was possible that some of the older specimens, which were labeled "Cancer," might really be sarcomatous, there was, at present, no evidence to prove it.

Mr. Golding Bird said that four years ago, he had operated on a primary melanotic spindle-celled sarcoma of the penis; no glandular enlargement was detected. The man recovered from the operation, and was alive when last seen, four months later.

Dr. Sharkey had found that, in two cases of supposed epithelioma, the growth was really a mixed-celled sarcoma.

Treatment of Neglected Shoulder-Presentation.

Dr. Joseph Thornley thus writes in the *Brit. Med. Jour.*, March 21, 1885:

On January 7, 1885, I was called to attend Mrs. L., aged twenty-three, in her second confinement; it being late at night, and three miles away from home, I took my bag of instruments with me.

On arriving at the house, I was told by an old woman, whom I afterwards ascertained to be the midwife, that the patient had been in labor twenty-four hours, "but that she was not bad enough yet, as she had no pains worth mentioning."

On making an examination, I found the hand and arm in the vagina, and the uterus firmly contracted on the body of the child. I afterwards was told that the midwife had said in the morning that "all was not right, that there was a part in the passage, but that it would come all right yet."

I then anointed my left hand and arm with a mixture of vaseline and carbolic acid, passed it into the vagina, and attempted to return the arm; but, as usual, I found I could not do more than bend the arm up, but failed to alter the presentation of the body of the child. I then gradually, but with some difficulty, passed my hand into the uterus, which I found closely applied to the body of the child, the whole of the liquor amnii having escaped. I ultimately found a leg, and brought down the foot, on which I made considerable traction; at the same time, I got one of the women to make gentle pressure on the abdomen, to assist version; but I found that the more traction I used the more firmly the fœtus became wedged in the pelvis, and the arm and shoulder would not recede. I then asked for a skein of worsted, but, as this could not be got, they found me some very broad linen tape. I made a hitch of this, passed it over the right foot, and tightened it above the ankle. I then took the tapes in my right hand, and passed my left into the vagina up to the uterus; then, as I used traction upon the leg by means of the hitch, I gradually pushed the shoulder into the uterus, then the arm, and by this means the turning became quite easy; the rest of the labor was conducted on general principles. The child, a well-developed female, was dead. The mother made an excellent recovery.

The principal points of interest in this case are these: First, attempts to replace the arm in cases where the liquor amnii has escaped are useless and cause much pain; in no case have I been able to replace it, and thus alter the presentation. Secondly, by attaching the tapes to the leg, and using traction on them, it left room for my other hand in the vagina, by which means I was able to act directly on the two poles of the body at the same time. I feel sure, by this method, the dangerous operation of dismembering the child, as recommended by Dr. Donaldson, may be avoided; in many cases the life of the child might be saved, and that without any risk to the mother.

Death from the Cold Douche.

Dr. L. C. Armstrong thus writes in the *Weekly Medical Review*, February 28, 1885:

On the 28th of January, 1885, Mrs. S., a widow, 23 years of age, pregnant in the fifth month with her second child, met her death under the following startling circumstances:

On the afternoon of the above date Mrs. S., while entirely alone, took advantage of the absence of her parents to try what virtue there might be in the cold douche, when directed against the os uteri, toward producing an abortion. She had a few days before expressed to her sister the desire for riddance from her present condition, wishing to be delivered of the child in utero.

For two hours her parents were absent on that afternoon, from 2 to 5 o'clock. On their return they at once on entering the house missed their daughter, Mrs. S., in whose care they had left their home during their absence; on making search for her they sought her bed chamber; finding the door locked, an entrance was forced. A sad sight met their gaze. There lay the dead body of the daughter whom they had left in perfect health not three hours before. Between her limbs was a basin of cold water, in which lay a Davidson syringe.

No post-mortem examination was made, but the testimony before the coroner and jury proved very clearly that no drug had been taken.

It was evidently a case of death from shock produced by the stream of cold water thrown with criminal intent into the vagina and against the congested os of a pregnant uterus.

The patient was an extremely healthy lady, who had suffered but little in her first labor; and that this strong constitution should so suddenly succumb to the cold douche should indeed be a warning to women of the danger in the use of so simple an instrument as the Davidson syringe.

Reviews and Book Notices.

NOTES ON CURRENT MEDICAL LITERATURE.

——Another strong plea for the cottage and country method of caring for the chronic insane is urged in an article by Dr. C. H. Hughes, of St. Louis. What he recommends is as follows:

Every insane community of mixed, recent and

long-standing cases, or of chronic cases exclusively, should be a home, and not a mere place of detention. It should be as unprison-like and attractive as any residence for the non-criminal. It should have for any considerable number of insane persons at least a section (640 acres) of ground. It should be in the country, of course, but accessible to the supplies of a large city. It should have a central main building, as architecturally beautiful and substantial as the State may choose to make it, provided with places of security for such as require them in times of excitement, with a chapel, amusement hall, and hospital in easy covered reach of the feeble and decrepit, and accessible, without risk to health, in bad weather.

——The question whether tobacco produces amblyopia, is discussed in a reprint before us, by Dr. W. F. Coleman, of Baltimore. His reply is embraced in the following paragraph:

When we find in common with so large a number of competent and conscientious observers, that impaired vision (accompanied or not by apparent changes in the optic nerve) so frequently occurs without any cause to which it can be attributed except the use of tobacco, and that the sight so generally improves when it is given up, without other treatment, or change in the habits or surroundings of the patient, we can scarcely hope for stronger evidence of the cause of the amblyopia.

——The doubtful propriety of interfering with wounded brains is urged by Dr. John B. Crawford, of Wilkesbarre, in an address before us. He justly says:

Experience has shown that there are few portions of the brain into which missiles have not found their way and lodged for considerable periods of time, without giving rise to any serious disturbance of the system. These, it is true, are exceptional cases—but we know that they may occur; and they do occur with such frequency that in doubtful cases it would seem more prudent to accept the slender chances that their possibility bestows, rather than to complicate, by surgical procedures, even a prospectively fatal injury, with a view to the doubtful benefits that *may* arise from their performance.

——An interesting address, by Dr. John H. Packard of this city, is one in pamphlet form before us, on "The Great Advances in Surgery and how They Have Been Made." It is a thoughtful vindication of the realities of history as against artists and romancers. It is necessarily rather destructive in tone, as may be judged by the following extract:

If one were to undertake to set down absolutely unquestionable doctrines or principles only—fixed facts, which it is certain cannot by any further degree of research be changed or set aside—he would find that the resulting material would be of very small bulk indeed. What had seemed to be a stately building would turn out to consist of a very few stones, with a shapeless and irregular, because temporary and mutable, scaffolding over them.

BOOK NOTICES.

Notes from the Physiological Laboratory of the University of Pennsylvania, edited by N. A. Randolph, M. D., and Samuel G. Dixon, M. D. 8vo., pp. 88. Philadelphia. J. B. Lippincott & Co. 1885.

These Notes embrace the results of a large amount of original investigation, and are well worthy the attention both of physiologists and therapeutists. They are a collection of previous publications scattered in various journals and society publications, and merited this preservation in book form.

Some of the points investigated were: the effects of starch, cod-liver oil, and petrolatum on the fæces; the distribution of gluten within the wheat grain; the digestion of raw and of boiled milk; the nutritive value of brainy foods; the cutaneous absorption of nicotine; diet in angina pectoris; the cutaneous absorption of salicylic acid, etc.

One note is on "a painless escharotic," which is a saturated solution of cocaine hydrochlorate in nitric acid. It is said to produce a deep eschar, with no other sensation than a "tickling, with slight puckering." This is certainly an important hint.

A Guide to the Diseases of Children. By James F. Goodhart, M. D., F. R. C. P., etc. Revised and edited by Louis Starr, M. D. 8vo., pp. 737. Philadelphia. P. Blakiston, Son & Co. Price, cloth, $4.00.

The author of this work intended it more especially as a manual for students, and hence avoided much of the less important pertinent matter relating to his subject, which is found in more comprehensive treatises. It is, however, well suited to the wants of most practitioners, who do not care to go into the branch profoundly. There is enough in the volume to satisfy most readers.

The author begins with a discussion of dentition, and proceeds to treat of the diet of children both in health and disease, and at their various ages. He takes up the usual diseases of childhood, one after another, throughout the list. His style is vigorous and clear, and is aided by a judicious typographical arrangement, and a lucid disposition of his material.

The editor has done his part of the work creditably, adding a number of paragraphs and notes, designed to bring the English original more into conformity with the usual line of American practice.

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SANITARY CONFERENCES.

The interest that the world at large is manifesting in sanitary matters is most gratifying. Among other recent evidences of this interest we note from our foreign exchanges that proposals are on foot for holding another International Sanitary Conference, to discuss the question of quarantine, and, if possible, to draw up international regulations; for various reasons, however, the proposal has never taken practical shape until recently. The Conference which will probably soon assemble had its origin in a proposal made by the Italian to the English Government in August, 1883, to hold an International Conference at Rome; the primary object was to concert a line of action with regard to the regulation of quarantine against cholera. After many delays and much discussion of the grounds upon which Great Britain would be willing to take part, it has been finally arranged that the Conference shall meet at Rome this month. The questions to be raised at the Conference have been materially narrowed, as a result of the preliminary negotiations which have been going on for the last year and a half; its deliberations, however, will, unquestionably, have considerable commercial and political significance.

The conference held in Vienna in 1874, recognized the futility of quarantine, and recommended, in its place, the system of medical inspection. The conference further recommended to those States which refused to accept this system that, in imposing quarantine, the period should be rigorously limited; the maximum period allowed, under any circumstances, was ten days, and the time occupied by the voyage was to be included in this. These recommendations have never been acted on. When the epidemic appeared at Toulon, last year, Spain put all vessels from French ports into quarantine for ten days in addition to the voyage; Italy imposed fifteen days, unless the passage had occupied more than ten days, and in that case the period of detention was another ten days; Austria imposed ten days, Turkey fifteen, Greece eleven, Russia fifteen. In this way a voyage, which in the ordinary course

would have occupied a week, might be made to last for more than four weeks.

There is reason to believe that the views of some of the Mediterranean Powers, especially Italy and France, with regard to quarantine, have undergone considerable modification, owing to the experience gained during the last epidemic. The work of the Conference will thus be materially simplified, and the chance of a successful issue of its labors greatly increased. Egypt, as appears to be the case with every other topic of the day, must come in for a large share of attention. The sanitary administration of that country has long been supposed to be of importance to Europe. In January, 1881, the Egyptian department charged with sanitary affairs was, by a decree of the Khedive, subdivided; the internal administration being committed to a board sitting at Cairo, the external relations of Egypt were to be regulated by the "Conseil Sanitaire Maritime and Quarentinaire." All the European maritime powers are represented on this board, which is, nevertheless, not an international board, but is strictly part of the Egyptian administration. The decree which constituted this Board threw upon it the duty not only of preventing the introduction of epidemic or epizootic diseases into Egypt, but also of preventing the transmission of these diseases to other countries. As might have been anticipated, this latter duty, and the peculiarly lax constitution of the Board, have led to endless difficulties, which have had a most injurious effect on trade, without rendering any public service. The reform of this Alexandrian Board must undoubtedly be one of the subjects discussed at the Conference which is about to assemble.

There is good reason to hope that the majority of the Powers will be practically unanimous in adopting the system of medical inspection, and, *a fortiori*, will not be willing to grant quarantine powers to any board sitting in Egypt.

SANITARY PRECAUTIONS AGAINST CHOLERA.

Recent advices from Europe report—what was fully expected by intelligent physicians—that the cholera poison had been only slumbering during the winter, and has broken out with renewed virulence in Spain.

It will certainly proceed on its travels, to stop, no one can say where. Hence the urgency of immediate action in this country. Many measures have been suggested, and many should be undertaken. Among them, the plans laid before the Sanitary Council of the Mississippi Valley, by Dr. John H. Rauch, of Illinois, at its last meeting, merit a prominent place, and we are glad to give them a wide circulation.

This distinguished sanitarian teaches that the measures to be enforced should include: (1) A prompt notification of the outbreak. (2) The local treatment of the outbreak. (3) Supervision of travel from the infected point.

Concerning the first of these there is little new to be said; but it is desirable that specific instructions be prepared with reference to the local treatment of an outbreak, including the duties of the health authorities; the provision of hospital facilities, and of accommodations for those removed from infected buildings or localities; the action concerning water-supply; the subject of disinfection and disinfectants; the care of water-closets and privies, especially those belonging to public buildings, hotels, schools, factories, workshops, railway stations, etc.; the daily personal examination of those living in the vicinity of a cholera case, and the prompt treatment of diarrhœa, cholerine, or other suspicious symptoms among such; the securing of early reports of cases by the attending physician, and other details.

A cholera outbreak would also demand an extension of the system of sanitary inspection and supervision of travel by rail, as fully at least as the system has hitherto been applied to travel by water with reference to yellow fever. Owing to the mode of the diffusion of the cholera poison, and the greater magnitude of railway travel as compared with that by river, this is a matter of much importance. All cases of diarrhœa or looseness of the bowels, among travelers, should be carefully and continuously watched, and the dejections be thoroughly disinfected. Water-

closets and privies at railway stations should receive strict attention; and it is highly desirable that the closets on passenger coaches should be so arranged that every dejection may be disinfected before discharging it on the ground, to be possibly washed into a water-supply, or to affect workmen on the track, etc., and thus extend the disease.

No train or boat should be allowed to proceed without being properly supplied with disinfectants and the ordinary cholera or diarrhœa remedies, with plain, specific directions for their use, and for the care and treatment of a cholera patient until a physician can be procured.

The necessary legislation to carry out this scheme should be promptly taken by states and cities, so that a solid front of sanitary precautions should be opposed to the approaching pestilence. Were such unanimity obtained, we need fear it but little.

THE RESULTS OF PATENT MEDICINES.

Judging by the sales of secret nostrums and the colossal fortunes piled up by the patent medicine men, there has been no real advance in intelligence of late years. For the patronage extended to such dangerous or worthless preparations is a very fair index of the general intelligence. Those who put their trust in loud-mouthed quacks,

> "Whose skill,
> "Is to make sound men sick, and sick men kill,"

are necessarily too imperfectly educated to distinguish science and sound knowledge from their counterfeits.

The damage done is immense. Not only are the poor beguiled of their hard-earned money, and the sick further afflicted without benefit, but the actual slaughter is immense. An English physician, Dr. Meitkerke, in a recent publication, states that a single one of these nostrums, very popular as a soothing draught for infants, "is the undoubted cause of death of 150,000 children annually" in the kingdom of Great Britain. Yet there are dozens of the kind in vogue, the active ingredient in all of them being some form of opium. Indeed, forty per cent. of the patent medicines in Great Britain contain more or less of this perilous stuff.

Yet, with such facts before them, the newspapers of every grade, lay and clerical, religious and reformatory, continue to advertise and recommend in "reading notices" such poisons. Out with such hypocrisy!

NOTES AND COMMENTS.

Case of Monstrosity.

The following case, which Dr. B. R. Johnson reports in the *Lancet*, March 21, is worthy of record. He says:

"A. T., aged forty-two, married nineteen years, had ten children, the eldest eighteen years old. Menstruation ceased last March, and she expected her confinement about the middle of November, at which time she consulted a doctor, who told her that if she went much longer she would probably have twins, she replying that she did not care so long as they were not "Siamese." On January 22 she went to the lying-in hospital, and stated that she thought there was something wrong with her, and that hemorrhage had previously occurred. On the 23d I found the patient had been in labor since 10 p. m. the previous night. On examination the head was found pressing on the perineum, and all pains had ceased. This being the case, I immediately applied the forceps, and delivered the head without difficulty; but it was not until after prolonged traction that the shoulders partially emerged, when I discovered that there was an outgrowth from the chest, which prevented any further movement in that direction. I therefore passed my hand round the lower part of the abdomen, and delivered the breech and legs. The child was now entirely born; but finding it connected from the neck to the umbilicus with another child still in the uterus, I laid hold of the legs of the second one, and delivered it without difficulty. The placenta followed in a few minutes. There was only one cord, proceeding from an umbilicus common to both. The children were dead, and were both boys. In the ordinary position they faced one another, but the connecting link was sufficiently lax to allow them to lie partially side by side. In every other respect they were perfectly formed, and weighed 11 pounds. The next day, when the mother heard of their

condition, she told the nurse that in March last she went to see the "Two-headed Nightingale," and fainted at the sight. I regret to say that the occurrence so affected her that three days after she committed suicide by jumping out of a window."

A Simple Expedient in the Management of Strangulated Hernia.

Dr. S. H. Hurd, of Long Branch, N. J., writes to the *Med. Record:*

"Under the above caption, Dr. C. A. Stewart, of Chicago, calls attention in *The Record* to a simple expedient he has resorted to successfully in five cases of strangulated hernia after taxis had failed. It consisted in dilatation of the constriction which produces the strangulation at the abdominal ring, by passing the finger along the inguinal canal, carrying the integument before it, until the constricting ring is felt. The finger is then gently insinuated into the opening, and, if the band of opposing fibres does not yield readily, gentle pressure is made against the upper border of the ring until it is felt to give way, when a resort to taxis again will ordinarily result successfully. Last year, I called the attention of the members of our County Society to this plan, and its happy results in several cases.

"One of my patients referred to was sixty-eight years of age, and several unsuccessful attempts had been made to reduce the hernia. I had made every preparation for surgical interference, and the patient was anæsthetized, when Dr. Green, of this city, attempted it by the above method and succeeded. The effort, though, was prolonged, and much patient and persistent pressure was made upon the fibres of the constricted ring before they yielded. This they ultimately did, but not by the 'gentle pressure' Dr. Stewart speaks of. An attack of peritonitis followed the reduction, but the patient made a speedy and happy recovery. Two similar cases treated by the same simple method, with no untoward symptoms following, warrant me in underscoring this 'simple expedient.' The first case occurred five years ago, and I do not report it with a view of establishing any priority of claim, but rather as a confirmation of the practice or plan recommended."

Carbolic Acid in Indigestion.

Dr. Edward Berdoe thus writes in the *British Med. Jour.*, March 21, 1885:

I have lately treated several cases of indigestion with carbolic acid, and the results have in each instance been so fortunate, that I am anxious to add the results of my experience. I have found it most useful in that form of dyspepsia known as fermentative, accompanied by constant sour rising and eructations of gas, with pain after meals, and discomfort even after drinking milk or cocoa. My attention was first directed to it by Dr. Fenwick, who gave the glycerine of carbolic acid (1 part of crystallized carbolic acid to 4 parts of glycerine). The dose is from five to ten minims in mint-water, or other convenient vehicle. As it mixes well, I think it a more safe and elegant form than a solution of the acid in water only. When there is much pain of the stomach after food, I have found it useful to add five or six minims of the liquor opii sedativus to each dose; and when there is want of tone in the seat of digestion, and bad appetite, five to ten minims of the tincture of nux vomica will often be found serviceable. I have found these remedies also very valuable in the above combination in cases of pyrosis, where, I think, the sedative influence of the carbolic acid on the mucous membrane is far more useful than the bismuth one usually given in such cases. It is an interesting subject of inquiry whether the carbolic acid acts by arresting fermentative changes in the stomach, or by its well known anæsthetic influence on mucous membranes. I have long given one-grain pills of this remedy in cases of vomiting from various causes, and have rarely found it fail to arrest it. In some of these cases there was no fermentative condition of the contents of the stomach; some of them were cases of reflex vomiting; yet all were, with few exceptions, greatly benefited. It would be desirable that the subject should be still further discussed by those who have had experience of the drug.

Syphilis and the Depopulation of France.

The late Professor Gross is credited with having made the remark that he believed the whole world was becoming gradually syphilized. Whether this be so or not, we know that this fatal disease (in its ramifications) is exceedingly prevalent in France, and at the same time we know that France is rapidly drifting into infidelity and into scoffing at everything pertaining to the religion which she practiced when she was the terror of Europe. Put two and two together and see how much they make. Read the following from the *Med. Record:*

"The members of the Académie de Médecine have recently held several long debates upon the subject of the depopulation of France. Like most of the Académie's prolonged discussions, the result

has been rather empty. At the last meeting, however, something definite was brought forward by M. Fournier. The depopulation of France, he said, was due to two causes: a low birth-rate, and a high death-rate among infants. Physicians could do little to affect the former, but in lessening infant mortality there was an opportunity for work. M. Fournier thought that there was a large and increasing amount of syphilis in France, particularly in Paris. The result of this was sterility or high infant mortality. Among one hundred children born of syphilitic parents, sixty-eight died. M. Fournier urges renewed efforts in the prevention of syphilis, and the adoption of some measures to prevent the marriage of syphilitics."

Wound of Vena Cava and Right Auricle.

The following case, reported by Dr. E. P. Flynn in the *Brit. Med. Jour.*, March 21, 1885, is sufficiently rare to warrant reproduction:

S. H. was admitted into the Sunderland Infirmary in September, 1883. He had been stabbed. A penetrating wound, one inch and a half in length and half an inch wide, was found on the right side, two inches internal to the right nipple, between the third and fourth ribs. Through this wound, blood and air gushed forth with every inspiration. When seen, he was pulseless and dying.

The necropsy was made twenty hours after death; rigor mortis was well marked. On tracing the wound in the right side, before described, it was found to pass inwards and towards the left side through the edge of the middle lobe of the right lung. The inferior vena cava and pericardium were wounded, and the right auricle was laid open. The wound in the auricle was half an inch in width. Both the pleural cavities and the pericardium were filled with blood.

Remarks.—The points of interest in this case are the time he survived (one hour and a quarter) and the fact that he ran a distance of twenty yards before falling. Jamain has collected seven cases of wounds of the right auricle, in which death followed in from seven hours to twenty days; but in this case, in which the vena cava as well as the right auricle was wounded, the patient lived an hour and a quarter.

Treatment of Adenoid Vegetations of the Pharynx.

From the *Brit. Med. Jour.*, March 21, we learn that Mr. E. C. Baber has read a paper on the simple treatment of adenoid vegetations of the naso-pharynx, referring to their removal by the finger-nail, which he now prefers to the forceps and galvanic cautery he formerly used. In eighteen cases occurring in children between 4 and 14 years, in which this simpler method had been used, it had answered very well, and could be applied generally without anæsthetics. The vegetations were freely scraped once a week for usually four weeks, and, afterwards, an examination was made about once a month for some time. The walls of the cavity should then be carefully palpated, and the nail buried in the growth, so as to cause sloughing afterwards. Free bleeding might occur at the first operation, but might be arrested by syringing with cold water. A metallic finger-nail was not necessary, but the finger should be protected from the teeth, and, for this purpose, a dogskin glove, cut off at the tip, was better than a rubber-ring. Daily syringing with warm salt and water was often useful, unless there were tendency to erection of the inferior turbinated bodies, when it was better avoided. The writer did not think recurrence more likely with the above treatment than with that by forceps, which was, of course, suitable sometimes, especially if an anæsthetic were given; but, so far, his favorable results with the nail corroborated those of Guye of Amsterdam, and others.

Smoking as a Cause of Cancer.

To give every side of every question, we note from the *Brit. Med. Jour.*, March 21, the following from Mr. J. Whitehouse. We do this because we have already quoted somewhat dissimilar views from the same journal. They have both been called forth by the popular notion that General Grant's cancer was caused by cigar smoking. Mr. W. says:

"As to whether smoking may be the immediate cause of cancer, surgeons are not agreed; but there is a condition of the tongue which is, in many cases, the precursor of epithelioma, namely, 'leucoplakia;' and this disease is more generally considered to be caused by smoking. Mr. Barker, writing on this inflammation, in Holmes' *System of Surgery*, points out that amongst seventy-five recorded cases, seventy-one smoked, and only four were non-smokers. Buzenet used the term '*plaques des fumeurs*' for this disease, because he was convinced that smoking so often gave rise to it. Mr. Hulke has more than once shown that 'leucoplakia' may be the starting-point of epithelioma; and out of the above-mentioned seventy-five cases, forty-four developed epithelioma, and in one only was there a family history of cancer."

The Abortive Treatment of Diphtheria.

The *Med. News* (March 28) tells us that in a brief communication to the *Berliner Klin. Wochenschrift* for January 25, Dr. Coestes, of Biebrich, adds his testimony as regards the efficacy of the abortive treatment of diphtheria by calomel. He has recently treated five cases, including his own, by the administration of 15 grains of calomel, generally in three doses, closely repeated. Only one terminated fatally, and in that the trachea was so much obstructed when he was called, that tracheotomy seemed inevitable. Succeeding the administration of calomel, however, with frictions of mercurial ointment and inhalations, the dyspnœa grew much less. Ultimately, however, the operation was performed, and the child died on the seventeenth day. The remaining cases all recovered, and Dr. Coestes justly says no one can take it amiss, if he, in consequence, has had his faith in abortive treatment strengthened.

The Treatment of Night-Cough.

This troublesome condition, which often precludes sleep, is treated of by Dr. A. W. MacCoy in the *Med. News*, February 28, 1885. He thus concludes:

"It is a well-known fact that a drink given to the child will often cause a cessation of the paroxysm, the fluid simply pushing downward the exciting foreign body. This clinical fact gives us the clew to the successful management of these troublesome cases. If the nasal passages are thoroughly cleansed before the child is put to bed, the night will probably be uninterrupted by this irritative cough. If the discharge accumulates in the nasal passages or upper pharynx during the night and gives rise to a paroxysm, it is a simple procedure to cleanse the nasal chambers, and at once relieve the symptoms. Treatment can be most effectively carried out by means of a spray composed of an aqueous solution of an alkali. By its use these cases need no longer be harassing to either practitioner or patient.

Cocaine in the Operation for Phimosis.

Dr. F. Hibbard reports the following case in the *Cinn. Lan. and Clinic*, April 4, 1885:

A young man came to me on February 14, presenting an acquired phimosis; as there was no redundancy of tissue, I decided upon the slitting operation, requesting him to return in a few days.

I procured a four per cent. solution, and on February 27, I inserted a small hypodermic needle, at a point corresponding with the corona glandis, passing it forwards between the skin and mucous membrane, to the end of the prepuce; then slowly withdrawing it, injected twenty minims of a four per cent. solution of cocaine; in fifteen minutes I divided the tissues along the line of injection, causing no pain whatever. The patient spoke of a sensation as of cutting leather; the stitches were then taken, causing but very little pain toward the close of the operation.

Hereditary Transmission of Dupuytren's Contraction.

As of interest in connection with the hereditary transmission of deformities, we note the following case which Dr. Sydney H. A. Stephenson reports in the *Brit. Med. Jour.*, March 14, 1885:

E. McC., twenty-three years of age, has had, from birth, the little finger of his right hand contracted; it is flexed towards the palm at the second and third phalangeal joints, and the whole finger deviates somewhat to the radial side of the hand. On the whole, it is a typical example of Dupuytren's contraction. The patient's maternal grandfather and his mother's brother both have the same finger of the same hand contracted in a similar way; and, in both these cases, the contraction is said to have existed since birth. The patient has one brother and four sisters living, none of whom exhibit any finger abnormality. There is no family history of either gout or rheumatism.

Asthma Caused by the Smell of a Cooked Hare.

As evidencing the power of imagination, Dr. John C. Thorowgood reports this case in the *Brit. Med. Jour.*:

A gentleman who, from his boyhood, has been liable to spasmodic asthma, and who is now about forty years old, enumerates, among various excitors of his complaint, the presence in his room of a hare or its skin. Many persons are affected with asthma in the presence of a hare or a cat, as is pretty well known; but, in my friend's case, a roasted hare is even a more speedy cause of an asthmatic seizure than is the furry coat of the creature; and he has related to me the very severe attack which he once had on meeting a roast hare in the hall, under a cover, on its way to the dinner-table.

A New Mode of Dressing Wounds.

From a foreign exchange we learn that at the Académie de Médecine M. Sée spoke on a new mode of dressing wounds which would be perma-

nent. When a wound is going to be sutured, he arrests the blood by catgut ligatures at first, and then dusts the part with subnitrate of bismuth, finely powdered. When all oozing has ceased, he makes, if the wound is profound, deep sutures, and the drainage-tube is made of red india-rubber. More powdered bismuth is applied, and the whole covered with a phenicated pad, in the centre of which is slipped a sachet containing a certain quantity of corrosive sublimate. The tubes are withdrawn at the end of the third or fourth day, and the dressing removed in a fortnight or three weeks, when the cicatrix is fully formed.

Small-Pox by Correspondence.

A curious but important case, in which small-pox infection was conveyed in a letter, is recorded by Mr. Karkeek, in his recent report on the sanitary condition of St. Mary church. On March 1st, last year, a case of small-pox was reported to him in the person of a domestic servant, who had seen no one ill or recovering from small-pox, and who had not been out of the town for months. Moreover, no case of the disease had occurred in St. Marychurch or Torquay for years. On inquiry, it was found that the infected person had received letters from her sister, an inmate of the West Bromwich Small-pox Hospital, "who had unfortunately sent the germs of the disease in her letter." The case was at once removed to the Torquay Sanitarium, and the only person in the household who became ill was the recipient and reader of the letters.

Urethral Spasm in the Female Relieved by Cocaine.

Dr. George Newell Hall writes to the *Med. Record*, that he was called to see a married lady, twenty-five years of age, who was suffering from retention of urine and considerable pain. She stated that she had been subject to these attacks from childhood, and had taken opium for their relief from the time she was thirteen years old. The spasms lasted, as a rule, for forty-eight hours, and were accompanied with considerable pain and a constant desire to urinate. An attempt to pass a catheter was unsuccessful. A grain and a half of cocaine was then dissolved in an ounce of water, and the catheter being introduced as far as the obstruction, about half of the solution was injected into the urethra. In about five minutes the catheter was again introduced, and passed with ease into the bladder.

An Ointment for Itch.

Prof. Hardy publishes the following formula in the *Union Medicale:* Naphthol, 10 parts; vaseline, 100 parts. The powdered naphthol is to be dissolved in half its weight of ether. This solution is to be mixed with a portion of vaseline, and heated to 30° or 40° C., until the ether has been entirely evaporated, when the rest of the vaseline is to be added, and the mass carefully triturated. The homogeneous ointment thus obtained is to be kept from the access of air. It may be applied at any stage of itch, and whether it is or is not complicated with other eruptions. The duration of the treatment varies from 10 to 15 days.

Ergot in Constipation.

As a rule, we would hardly think of ordering such drugs as ergot for constipation, but when due to atony of the muscular wall of the intestines, we can understand how it would prove beneficial. Two such cases are reported by Dr. Granzio in the *Allgemeine Med. Zeitung*. They were caused by, or, at least, followed the abuse of purgatives. Three doses of ten grains each were given at intervals of two hours, and were followed by a copious evacuation. A second stool occurred spontaneously the next day, and after the administration of ergot in small doses for a few days a definite cure was obtained.

CORRESPONDENCE.

The Early Treatment of Typhoid Fever.

EDS. MED. AND SURG. REPORTER:—

Typhoid fever, so-called, is emphatically a low and slowly progressive fever, principally enteric. The progress of the disease is so slow, that with proper treatment the typhoid condition need never occur. It is remarkable, that those who are most liable to this fever are generally free from all organic disease, and during the first stage of the disease, the brain, the stomach, and the liver, are all in fair condition, and with these *aids* the physician ought to be, and remain, master of the situation.

But, unfortunately, we find in the books so many symptoms described, and so many remedies suggested—at best only an expectant treatment—that the attendant physician too often becomes undecided, and notwithstanding the slow progress of the fever, he permits the typhoid condition to supervene, and then he concludes that the case must run its accustomed course of six to eight weeks, with the chances in favor of the priest taking charge in the end.

When first called, the physician finds low fever, tongue furred, urine scant, restlessness, and slight constipation. The constipation, however, is not properly a symptom peculiar to this fever; it is

an accompaniment of all fevers; nor is the attendant diarrhœa properly a symptom; it is but the sequence of the constipation, the *re*-action of nature, *vis medicatrix naturæ*.

The plain indications are, to abate fever, clean the tongue, calm the nerves, and restore the secretions and excretions to their normal conditions, whereupon nature will aid you efficiently; all of these conditions can be fulfilled by giving

℞. Spts. æth. nit., ℥ss
Quinia sulph., gr.j.

Mix and administer in a little water, three or four times a day. Also,

℞. Hydrarg. iodi,
Pulv. ipec.,
Ext. hyos., āā gr.ss.
Gum, camph. pulv.,
Ext. col. comp., āā gr.j.
Syrupus, q. s.
M. Ft. Pil.

Give one every twenty-four hours. Don't pester patient every hour with a dose of something. Let him rest, and sleep.

Under this treatment the tongue will become moist, and the fever abate almost immediately, and the tongue will clean off in forty-eight hours. The patient, will then relish food, give him all he wants of dry toast, and tea, with milk in it.

Give patient all the cold water he wants, but a very little at a time. Have no fears of ptyaiism.

The nitre-quinia solution is so diffusible, the patient obtains the full benefit in *ten minutes*. I never knew either of these *contra* indicated, where either was indicated.

One drachm of spts. æth. nit. is a perfect solvent of two grains of quinia sulphas, when both are of standard purity.

A pill compounded as previously described is quite efficient, and yet almost as mild as a pill of bread.

The aim should be to produce one evacuation in twenty-four hours; it may require only half a pill, one pill, or a pill and a half.

Don't urge the liver to a pernicious activity, or it will seek a rest by reaction, and give you trouble, and endanger your patient.

With one evacuation in twenty-four hours, you need not fear diarrhœa.

This treatment was first adopted with excellent success, in the case of Surgeon Spencer S. Stoat, June, 1862, in camp at Aquia Creek, Va., who was suddenly taken down with typhoid malaria. In Camp Belleplain, Va., during the winter of '62 and '63, before the writer had fully realized the efficacy of this treatment, a patient was permitted to sink into the typhoid condition. Pulse, 100. Tongue much swollen, as dry as a chip, black-brown color, depressed in the centre, and curled up at the edge. I gave him a half drachm dose of the *nitre-quinia solution*, and sat by his side. In ten minutes I repeated the dose, and remained with my finger on his pulse. In fifteen minutes I again repeated the dose and continued by his side, and in thirty minutes from the first dose his pulse had become softened and reduced in frequency, his tongue moist, and rounded up beautifully. (A result so remarkable, could never be forgotten). Patient then partook sparingly of *tea and toast*. I then ordered one pill, as heretofore described, to be given every twenty-four hours, and the tongue cleaned off in forty-eight hours. Patient relished food, and improved, (not slowly,) but rapidly, without a relapse.

Again, in the winter of '63–'64, in camp near Culpepper, Va., regiment was ordered to Raccoon Ford, 12 miles distant, and returned the following day. During the absence of the regiment, the hospital tent had been removed, leaving a typhoid fever patient exposed all night and the greater part of two days, to a cold drizzling rain. A relapse was the inevitable result; pulse 100, tongue dry and curled at edge, together with *low delirious mutterings*, so ominous to the ears of all attendants. Sinapisms were immediately applied to his feet, and the *nitre-quinia solution* given to moisten his tongue. The compound pill was given to clean his tongue and give a relish for food, and the old soldier rallied and recovered, contrary to the prognosis of several surgeons who witnessed the case.

Micro-organism is a scientific theorem of exceeding beauty and interest. The germ theory may be all that is claimed for it. The air may be full of spores, water and soil full of microbes, the human body filled with bacilli—straight, crooked, and spiral, and covered with cryptogamia—and yet, notwithstanding, under this treatment the typhoid patient will become convalescent in less than fifteen days; possibly in ten. With due regard to and proper treatment of various symptoms that *may develop*, the death-rate of typhoid fever, which at present is about fifty per cent., ought to be reduced to five.

Geo. M. Ramsey, M. D.
Clokey, Pa.

Shoulder Presentation in a Twin Labor.

Eds. Med. and Surg. Reporter :—

On March 21, 1885, I was called by Mr. W., two miles from town, to assist Dr. B., of Montgomery, in a critical labor. When I arrived, the doctor told me that there seemed to be a knee presentation. Upon examination, I diagnosed a shoulder presentation. Both shoulders were forced down partially in the superior strait, the head on the right and the body on the left side. The spine could be distinctly felt between the two shoulders and scapulæ. After the doctor made another examination, he came to the same conclusion that I did. But he seemed in no hurry. He said he must go to Montgomery, but he would be back in an hour and bring with him some chloroform. He did not arrive for three hours, during which time our patient suffered severely for perhaps an hour and a half, when the contractions became less forcible.

As soon as the doctor returned, I urged immediate action. He proposed that he would administer the chloroform, and that I should operate, suggesting that I should bring the head down. As soon as the patient was under the influence of chloroform, I introduced my right hand without much difficulty, as the pelvis was ample and the soft parts dilatable. But, as I had anticipated, I could not bring the head down, although I had good hold of it. I then reached up in search of the feet, but owing to the firm contraction of the

uterus, I could not get my hand up higher than the hips, which I grasped, with my thumb and two fingers around the outside, and the index and middle fingers between the thighs; and after using considerable force, I brought down the breech. Turning it backwards, the contractions became more forcible and soon brought down the body; the head was easily extricated, and to my astonishment the child was alive, and weighing, perhaps, seven pounds. As soon as it was attended to and taken by the nurse, we turned our attention to the mother, and discovered that there was another child in the womb. In perhaps half an hour the pains came on again, when the second child was born in the natural way (head foremost), weighing, perhaps, six pounds. The first is a girl and the second a boy. This is the third time that the mother had twins; and so far as I know, all are living and doing well.

E. A. Oppelt, M. D.

Cannelburgh, Davisse county, Ind., March 28, 1885.

Incontinence of Urine.

Eds. Med. and Surg. Reporter:—

I am reminded, in reading in last week's Reporter the article on "Incontinence of Urine," of the following case, which, from the long duration of the trouble, and the marked melancholia developed on account of the depressing effect on patient's mind and the prompt relief afforded, leads me to report it:

Patient, aged twenty, male, had been suffering with that most unpleasant condition, "nocturnal incontinence of urine," for many years—in fact, as long as he could remember—making it impossible to leave home or accept any position which took him from home over night; was becoming morose and melancholy; general weak, flabby conditon of muscles, and of system in general. Had resisted all sorts of treatment, as patient's parents and himself stated. Placed him upon the following prescription, with immediate relief; and with the relief of the "incontinence" came relief of mind, and it was ample compensation for me to observe the young man brighten up, and suddenly see the bright side of life, and find that living was a pleasant thing; in fact, he rapidly developed into an active young man, accepted a position of trust, and bids fair to be a useful citizen and smart business man. The prescription consisted of the following:

℞. Tr. ferri chlor., Tr. nucis vomicæ, āā ℥ss.
Tr. cantharides, ℥vj.
Syr. simp., ℥ij.
Aquæ, ad. q. s. ℥vj. M.

Sig.—One teaspoonful three or four times a day.

It is now over a year since he came under my observation, and I am happy to state that the trouble has never returned. He took the above remedies about three months steadily.

Clarence G. Hollister, M. D.

Union City, Pa., April 12.

—A new remedy for migraine proposed by the French, is a decoction of the leaves of méuyanthe, a plant of the family of gentians.

News and Miscellany.

Physical Culture.

In the chapel of the University of Pennsylvania, on Monday evening, April 13th, Dr. J. William White gave a most interesting lecture on "Physical Culture." He gave an interesting sketch of athletics among the ancients, and pointed out the importance which they attached to physical culture.

Referring to modern gymnastics, he said it was not till the beginning of the present century that physical training became systematized. In Germany and England a vast deal of attention is given to exercise and development of the muscles. In this country, although there are many excellent gymnasiums in the large cities, it is only at a few of the more important colleges that gymnastics are regarded as more than a pastime. That this is not the proper position of athletics in an intelligent community has become evident to all thinking people, but few realize the incalculable power for good which physical education, rightly understood, encouraged and applied, could have upon the human race in years to come. This association between physical, intellectual and moral strength is a natural one, unchangeable in its essential principles, though subject, of course, to individual exceptions. The idea of physical exercises as a training for the mind no less than the body lay at the foundation of Plato's views of the real function of exercise. It has been found at Harvard that students take about the same rank in required gymnastics that they do in their regular studies. Brain and nerve substance are behind every well controlled muscular movement, and the two are so closely connected that it is hard to tell what is due to the mind and what is due to the body.

The two most common arguments against physical culture are that it is not compatible with a proper degree of attention to the mental powers, and that athletics are usually harmful and productive of disease. The first of these objections may apply to the "professional," the man who gives up his life exclusively to the cultivation of his body. The records of science show an intimate association between brain power and bodily vigor. Dr. Beard claims that a hundred men of genius chosen by chance will be larger than a hundred dunces chosen anywhere, and that they will be hardier, taller and more weighty. The great point to be insisted upon is systematic, intelligent culture of the body.

The general principles involved in training, and which are seldom understood by trainers, are first, time. This is an important element in training, because of the increased work thrust upon the heart. Breaking down from what is called over-training is generally the result of an attempt to reach the desired bodily development in a few weeks. The enlargement of the chest and legs, the strengthening of the muscles and the expansion of the veins, cannot be safely accomplished in a short period. The second point is that training should never be limited to the particular form of muscular movement to be finally employed. Another important matter is diet. It should be

plain, and not contain an excess of either animal or vegetable food. Coffee, hot cakes, pastry, and pies, are not recommended. The only necessary caution as to the drinking of water is not to make the mistake of taking a dry, parched condition of the mouth for real thirst. It is always best to rinse the mouth before drinking. Tobacco, which has a direct effect upon the heart, should not be touched. Alcoholic drinks should be used sparingly, if at all. If symptoms develop during training which indicate that a man is physically unfit for the work, he should be retired, and, finally, it must be remembered that as it is dangerous to call the heart suddenly into action from a state of rest, so it often is harmful to return at once to sedentary habits.

The degree of strength and development are represented by physical examiners by a system of numbers based on a series of accurate measurements. In 1880 Harvard recorded the list of her ten best men. The total strength of her strongest men was represented by the figures 675.2, the best condition by 167.5, and the average condition of the ten men by 126.4.

"I have examined the students of the University of Pennsylvania. Our best man developed a strength of 890; condition 381.5. The average strength of our men was 517.65, and their average condition 300. The figures are based on the measurements of ten men. This is a remarkably fine showing for the University, and one of which we may all be proud."

Shall We Abolish Ventilation?

The *Lancet* facetiously tells us that "Mr. Baron Huddleston is trying a great sanitary experiment at the Royal Courts of Justice," and goes on to say: "It is one which will interest everybody, and we hope to be duly informed of the results obtained; indeed, we shall look for information with considerable impatience. The late Lord Derby is reported to have said in reference to some wine recommended to him as a preventive agaist the gout, that he preferred that disease to the beverage that promised immunity. Mr. Baron Huddleston prefers to be unventilated rather than have cool air blown on him from every quarter, under pretense of purifying the chamber in which he is doomed to sit. The engineer is enjoined, on peril of contempt of Court, not to ventilate Mr. Baron Huddleston's court any more. It will be curious to note whether the strictly local death-rate of that particular Court rises or falls. We should like to receive a weekly bulletin of health and mortality, countersigned by the judge himself. Will he oblige us? The stagnant atmosphere of this individual chamber might also be turned to useful account as the raw material out of which to manufacture a vast marketable supply of specimens of mephitic vapor. We trust the analytical chemists and physicists will not allow it to remain unutilized. It is a pity the idea is not to be carried a little further, and that a portion of the Royal Courts of Justice cannot be freed from the nuisance of drains, artificial water-supply, artificial lighting appliances, and so on. It might even be interesting to put the hands of the clock back in other senses, to try the effect of reversion to an earlier developmental type, so that the pristine glories and conveniences of a previous age could be studied in their entirety side by side with the so-called 'advantages' of modern applied science. We fear the idea is not altogether original. At the Health Exhibition insanitary houses were exhibited for comparison with the sanitary buildings and appliances which the public were to be incited to emulate. In olden times wise men made their slaves drink to excess as a warning to their sons. It has, however, been left to Mr. Baron Huddleston to exhibit a court of law in the Royal Courts of Justice in which 'ventilation is to be altogether abolished.'"

Deaths from Hurry and Exertion.

Some time since we published an editorial on "Running for Trains," in which we strongly advised all to "make haste slowly." From an English exchange, we now get the following corroboration of our views:

"A few days since, a railway clerk, aged twenty, was found dead in a sitting posture in a second-class railway carriage when it arrived at Woolwich. At the inquest it was stated that deceased had been suffering from heart disease for two or three years, and it was supposed that he had hurried to catch the train that morning. The surgeon who made the post-mortem examination stated that the heart was enlarged. Another case of death from exertion in a man suffering from diseased heart has occurred. A signalman at Brixton railway station, while pulling on the levers, suddenly fell backwards, and on the arrival of a surgeon was pronounced to be dead. The widow stated at the inquest that deceased had been treated for an affection of the heart for some time. In this case there does not seem to have been a post-mortem examination. Yet another death from exertion has occurred. A young lady, aged sixteen, expired suddenly in a gymnasium after performing a feat of skill. According to the medical evidence, she was suffering from valvular disease of the heart. How often has the hurry to catch a train, or some other sudden exertion, throwing extra work on a dilated, fatty, or otherwise diseased heart, resulted in fatal syncope! It is our duty to warn such patients of the risk they will run if they allow any consideration of business or convenience to tempt them to a single rash act of this kind.

Official List of Changes of Stations and Duties of Medical Officers of the United States Marine Hospital Service, for the week ended April 11, 1885.

Bailhache, B. H., surgeon. Chairman of Board for Physical Examination of Candidates for Appointment as Assistant Engineers, Revenue Marine Service, April 6, 1885.

Vansant, John, surgeon. Chairman of Board for Physical Examination of Officers of the Revenue Marine Service, April 11, 1885.

Purviance, George, surgeon. Granted leave of absence for one week, April 6, 1885.

Stoner, G. W., surgeon. Member of Board for Physical Examination of Candidates for Appointment as Assistant Engineers, Revenue Marine Service, April 9, 1885.

Godfrey, John, surgeon. To represent Service at annual meeting of American Medical Association, April 11, 1885.

Goldsborough, C. B., passed assistant surgeon. To proceed to Pascagoula, Miss., as inspector, April 8, 1885.

Carter, H. R., passed assistant surgeon. Member of Board for Physical Examination of Officers of the Revenue Marine Service, April 11, 1885.

Items.

—Dr. John B. Deaver, Demonstrator of Anatomy at the University of Pennsylvania, was recently presented with a set of lithotomy instruments by his class.

—A serious epidemic of whooping-cough has ravaged the islands of Suva, Fiji. The malady has carried off all the very young native children, and left a decrease in the population on the year of 3000.

—In a case of tubercular meningitis supervening upon lupus, Dr. Doutrelepont (*Deutsch. Med. Wochenschrift*, 1885, No. 7), reports the detection of tubercle bacilli in blood removed from the heart and jugular vein.

—The Keith Medal in the University of Aberdeen, instituted in the memory of the late Dr. Keith, has been gained by Mr. George Findlay. The subjects of examination are surgery and clinical surgery.

—Medical authority is tolerably well united in the opinion that cigars do not cause cancer. This, however, does not apply to the many alleged cigars which impose themselves upon a guileless people.

—The best safeguard against cholera, yellow fever, and every other species of disease, is cleanliness—cleanliness not merely of person and apparel, but of air, food, water, and habitation. It must be acquired and maintained—voluntarily if the individual will; forcibly, if the authorities must.

—According to the *Indian Medical Journal*, quoting from the *Mail*, the Madras Government has accepted a tender made by M. L. Cornet, of Pondicherry, for sinking an artesian well at Madras. The approximate cost of the undertaking will be 15,475 rupees. The necessary apparatus is to be brought from Paris.

—A man, aged 39, died recently, in the Birmingham (England) Workhouse Infirmary, whilst under the influence of chloroform-vapor, which had been administered to him for the performance of an operation for the cure of a subclavian aneurism. An inquest was held, and a verdict was returned of "death from chloroform, properly administered."

Before the Liverpool Medical Institution (February 19), Dr. Alexander showed a necrosed vomer and sphenoid removed from a woman, æt 30, who was taken to the Northern Hospital with a body sticking in the pharynx, and said to have fallen down from the skull. There was no obstruction of air passage. The bone, as it proved to be, was easily removed by the finger. There was a history of syphilis, and she had suffered from sore throat for seven years.

—F. D. Canfield, of Philadelphia, has published a little treatise on the manufacture and sale of Havana cigars, translated from the fifth edition of the original Spanish of F. H. Meyer, a former manufacturer. According to the author, the manufacturer does not sleep on a bed of roses, although, if once he make a reputation for his cigars, he is pretty sure to make a fortune. The pamphlet contains much curious information, some of which is not calculated to enhance the sentimental pleasure of smoking.

—Lightning has killed 4,609 persons in France alone since 1835. An equal number have been seriously, though not fatally, wounded, and five times as many struck. The hot years were the most fatal, and these are remarkable as having been the best wine seasons. There has not been a single death from lightning in Paris or the Department of the Seine since 1864, though there have been many violent storms there during that time. — *Bulletin de l'Association Scientifique de France.*

—In Egypt, Persia, and India, a seed called in Arabic *schimsch*, or *chischm*, and which belongs to a variety of cassia (*C. abrus*, L.), is used for the same purposes and in very much the same manner as jequirity is in Brazil. Schuchardt states that the efficacy of *chischm* is remarkable, especially in its control of inflammation and granulation of the conjunctiva, and in blennorrhœa. In use the seed, finely pulverized, is mixed with sugar, lard, or alum, or used pure. The method of application is not stated.—*Archiv. der Pharm.*

—Prof. Malgaigne was one day examining a candidate upon his doctorate thesis, and was annoyed at the very bad replies and ignorance of the student. "Well," he cried at last, impatiently, "make me one good answer; can you tell me what it is to create?" "To create," said the young man, readily, "it is to make something out of nothing." "Correct, monsieur, and in proof of it we are now going to create you a doctor." The application of this will be seen during the present commencement months.

—Plans have been prepared by the City Property Department for the erection of a permanent bath-house, in the Gothic style, at the western end of South street bridge, in this city. The new building will be built mainly of brick. It will be 160 feet long, with a clear width of 56 feet 6 inches. Two pools will be provided, with a length of 138 feet by 38 feet, one to be six feet and the other four feet in depth.

—The *Lancet* says that it has been asserted that the quality of tea may be approximately estimated by the weight of ash which it yields, the value of tea being inversely proportional to the ash. M. Nikatinski has lately, says *The Grocer*, made a series of experiments with the view of testing the truth of this assertion, and finds that the ash is a very fair index of the quality of the tea. Thus a good Shanghai tea gave 5.16 per cent. ash, a cheap green brick tea 6.87, and two Orenburg teas, which are known to be adulterated with rose leaves, and of which the price was 115*s.* and 48*s.* per cwt., yielded respectively 7.87 and 10.42 per cent. of ash.